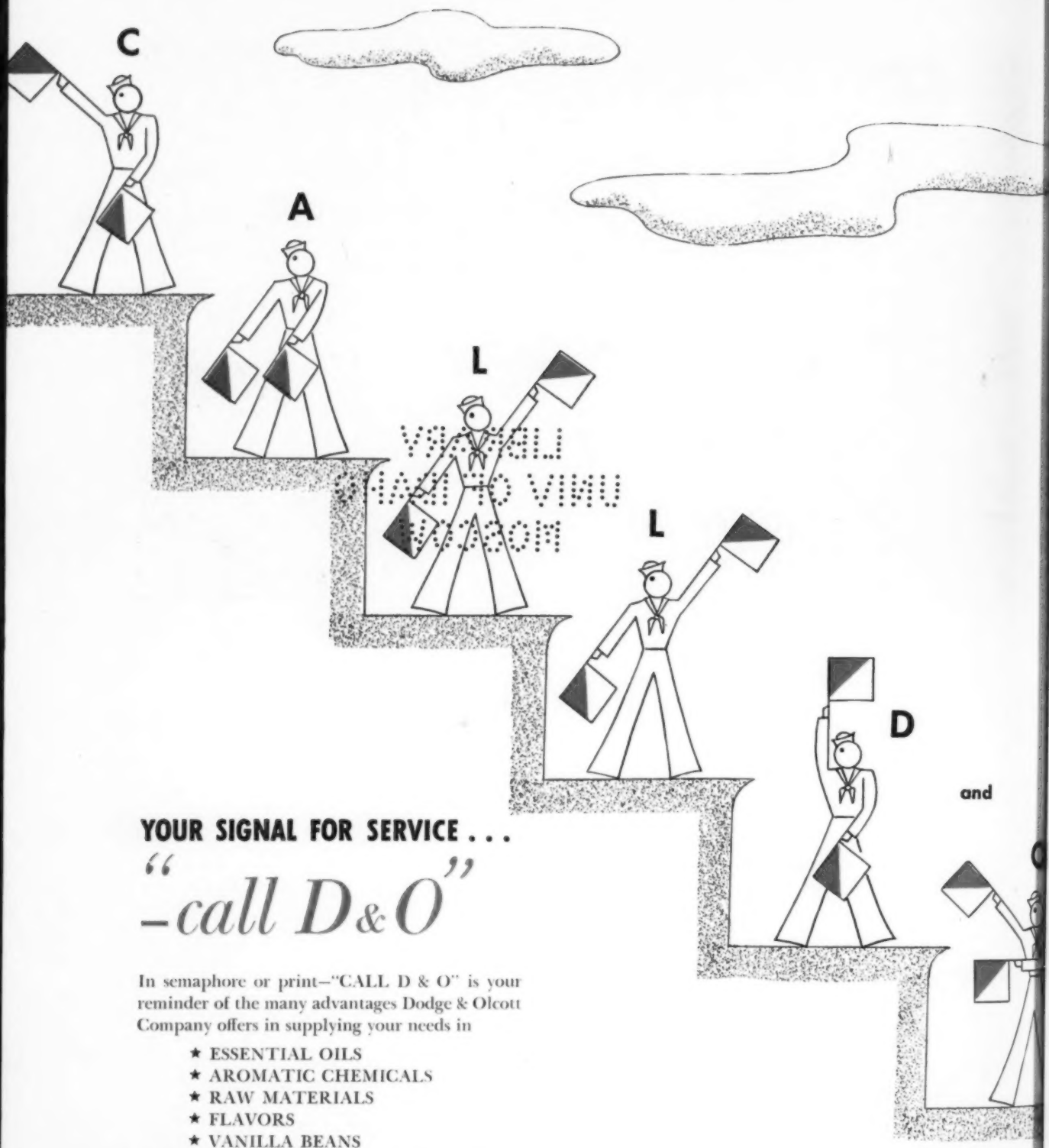
SOAP

SANITARY CHEMICALS

December 1942



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Volume XVIII Number 12

SOAP and SANITARY CHEMICALS

Reg. U. S. Pat. Office

DECEMBER 1942

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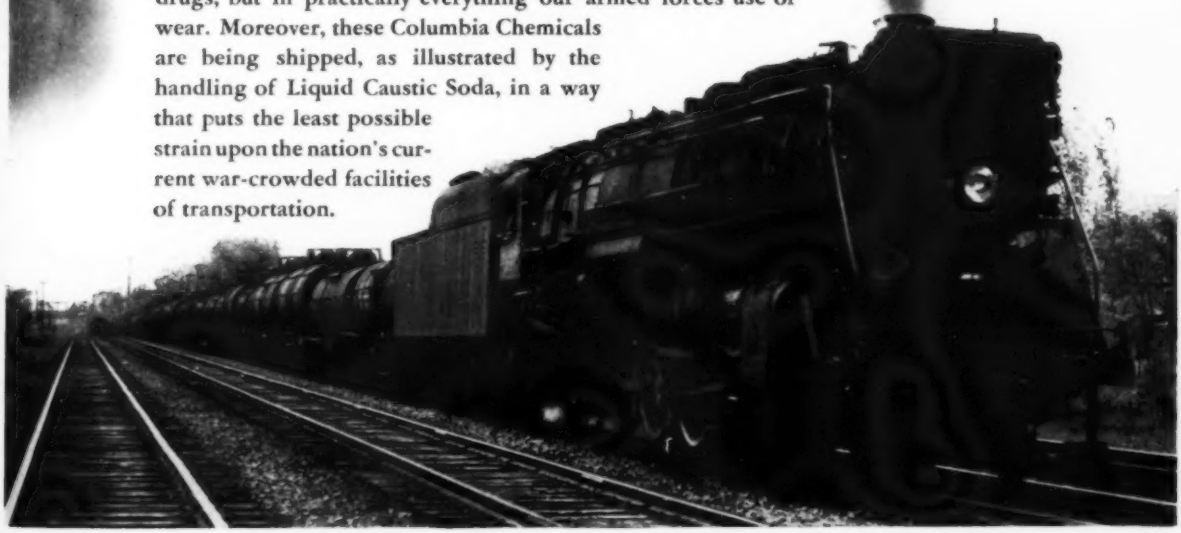

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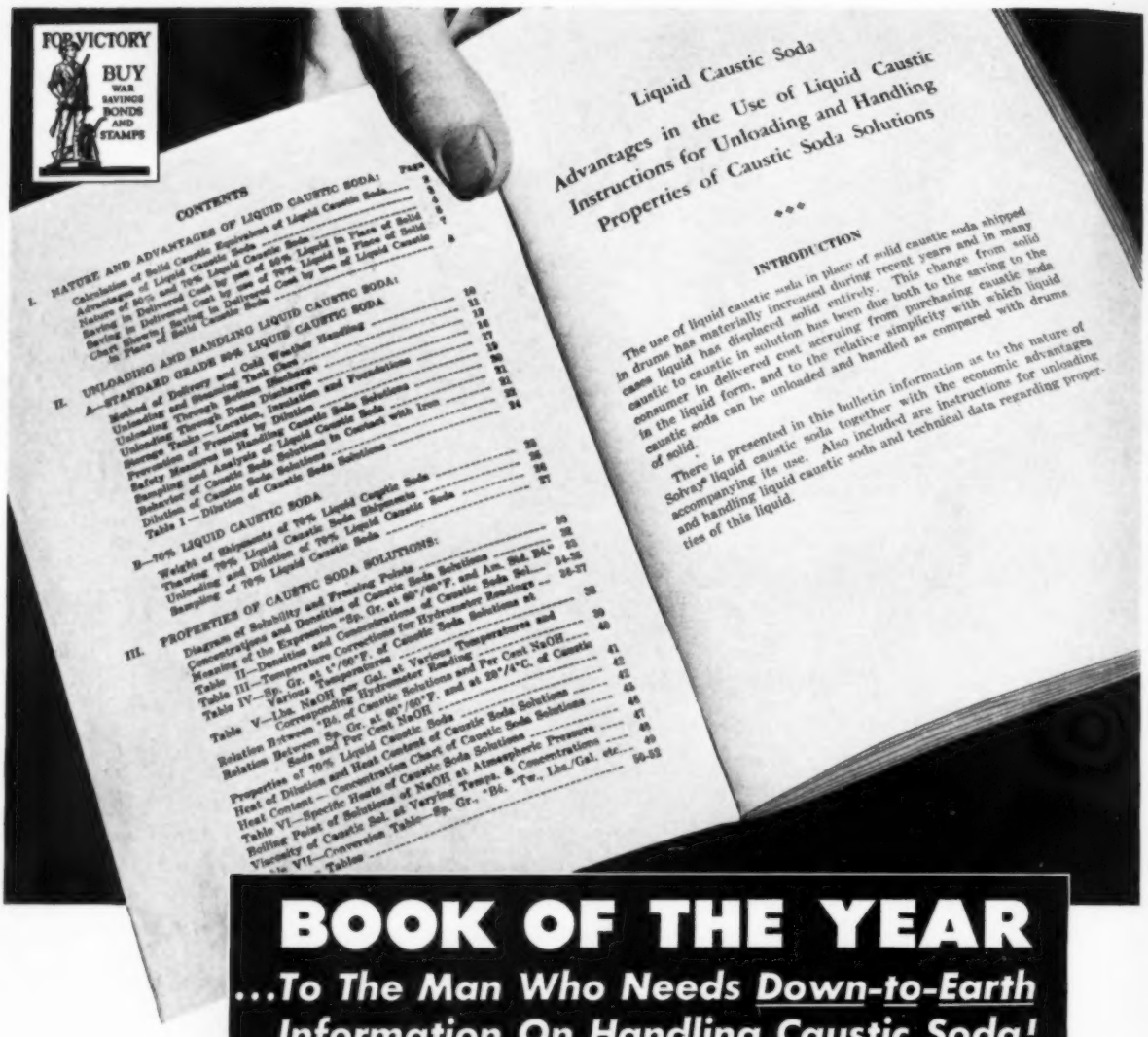

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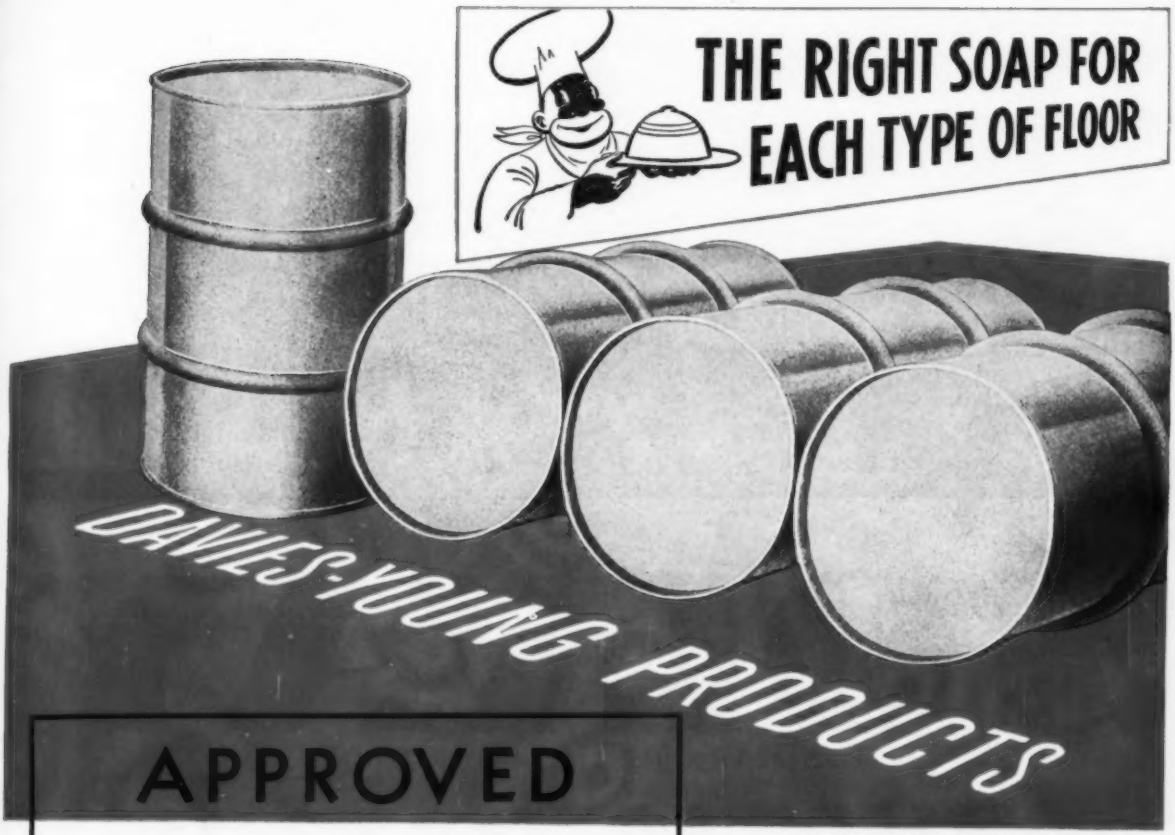

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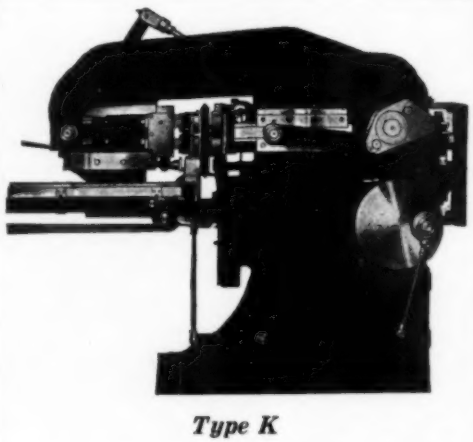

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AS THE EDITOR SEES IT

RECENT tightness in tallow supplies leads to a course of reasoning which indicates that stocks of available tallow and greases in 1943 will be insufficient for soap industry needs. For a month or so past, soapers have had extreme difficulty in locating supplies of tallow. At times, this has reached the stage of almost a complete dearth of offers, and when there have been offers, sellers have been unusually choosey in their selection of customers. That they likewise anticipate a shortage at least during the early part of 1943 is quite apparent.

Irrespective of the causes of the tallow shortage, which is discussed elsewhere in this issue, the fact is quite evident that next year soapers will be compelled to rely more heavily on that portion of our bumper domestic vegetable oil production which will be available to them. In fact, our domestic oil output represents the outstanding bright spot on a rather clouded 1943 oil and fat horizon. And in the midst of this worry of a tallow and grease shortage, we find the oil and fat storage facilities of the nation literally bulging and unable in the near future to accommodate any increased imports or domestic production.

SMALL soapers are going to have to watch their step more carefully than ever now that the glycerine recovery order, M-193, has been issued by W. P. B. This order limiting the amount of glycerine in finished soaps had been anticipated for many months, but there has been no end of small soap manufacturers who have just been riding along, hoping that they would get by in some way without making the necessary changes in their manufacturing set-up. As far as most larger soap makers are concerned, the new glycerine limitation order does not mean too much. They have been recovering their glycerine anyway and for years their products have been well under the top glycerine limit. Some complications may arise from cold-made soaps already on the market which may be picked up later, but the W. P. B. is not likely to misunderstand such circumstances.

The possibilities of smaller soap plants installing glycerine recovery equipment at this time is, as we have pointed out before, very remote. Those who have the money would probably not be able to buy the equipment anyway. There seems to be only one "out" for those who have ignored repeated suggestions that they switch to fatty acids, and that is to make the switch right now if they have not done so since the order was issued.

But in spite of warnings, there will be any number of small soapers,—only those who processed less than five tons of oils, fats, or fatty acids in any preceding month are exempt from M-193,—who come under the order but who will ignore it either as a result of ignorance or because they feel that they are too small to attract official attention. That there are some small soapers who feel this way, we know, but we can assure them that if they fail to comply, real trouble will be knocking at their door. The sooner they switch to the proper type of fatty acids, the sooner will they be in trouble-free territory.

ALTHOUGH new regulations covering the glycerine content of soap have just recently been issued, word from Washington indicates that they are only temporary, and that considerably more drastic limitations are in the offing. Apparently the expressed intention of the W.P.B. to squeeze the last pound of glycerine from American soap manufacturers is to be followed by action. With such a prospect on the horizon, there is more reason than ever for all soapers to line up their plants as soon as possible with this in view. They cannot start too soon in adjusting their production methods to a glycerine policy more severe than heretofore.

IN spite of continuing talk in Washington of compulsory consolidation in industry, that is a reduction in the number of plants and a concentration of manufacture among the more efficient units, we doubt that there will be too much government pressure toward consolidation in the soap field. As long as the industry, large firms as well as small, does its part in recovering all available glycerine, the W.P.B. is not likely to demand that soapers telescope their operations. Under the present raw material set-up, small soapers as well as large can do their share in aiding a high glycerine output.

If consolidation in one form or another does hit manufacturers of soaps and sanitary products before the war is over, however, there is balm in the thought that it will not be with as severe an impact as other industries may suffer. The blow will be eased by the fact that both in the soap and the sanitary products field, the results of proposed concentration programs were arrived at years ago through the influence of natural competitive forces. Manufacture of private brands in the larger plants, with many of the smaller organizations confining their activities to sales and service, has long been a familiar story in these industries. If the brand of "concentration" which they are talking about in Washington comes to the soap and sanitary products industry, it will be something with which many are already quite familiar.

IF THE purchase of soap for our armed forces, Lend-Lease, other government departments could be centralized during these trying times, efficiency in producing and supplying such needs might be increased. By distributing contracts through a central buying agency cognizant of all soap needs, the full productive capacity of the soap industry could be used to greater advantage if needed. There would be no overloading some plants with orders while others twiddled their thumbs. If in connection with such a plan, there might be an agreement of a sort among the soapers, that they might get together and determine for themselves the best manner to facilitate supplying this demand, we believe that it would be a progessive step as far as soap in the war effort is concerned. It should help to get the right soap to the right place at the right time.

Although such a plan might go a long way toward simplifying and speeding up the procurement of soap for war needs, we fear that it would not meet with the full approval of the legal minds in our government bureaus. The very thought of the soap industry "getting together," even to solve a war problem, would be just too much for the Washington lawyers and some farm congressmen. Their interpretation of such a move, even in war-time, could only reflect things sinister,—collusion, conspiracy, and what-not. But it still would be a sensible solution of a problem which is becoming more complicated as time goes on. And in this thought we are not alone.

WAR and the SOAP PLANT...

The outlook and changes in soap manufacture during the year since Pearl Harbor discussed

By C. R. Kemp

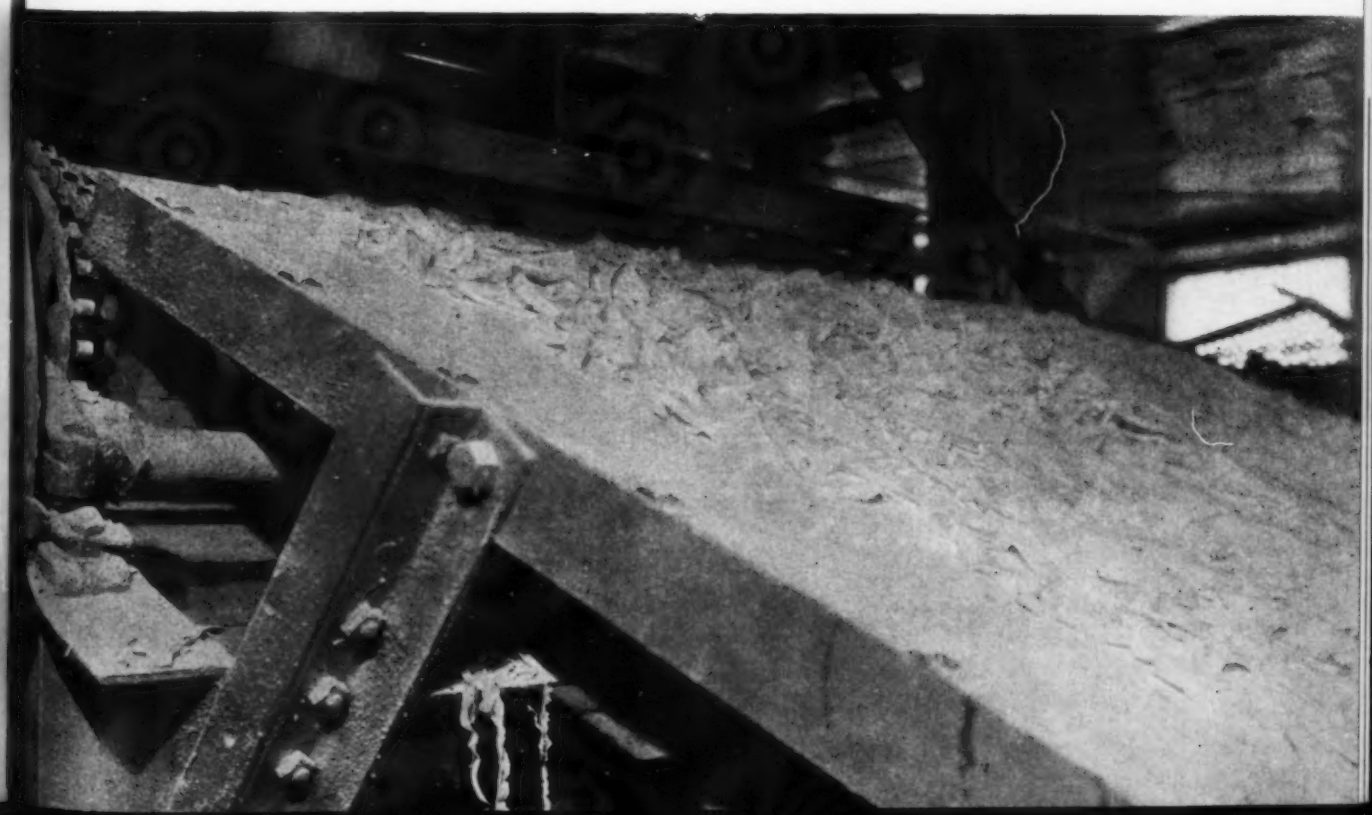
J. R. Watkins Co.

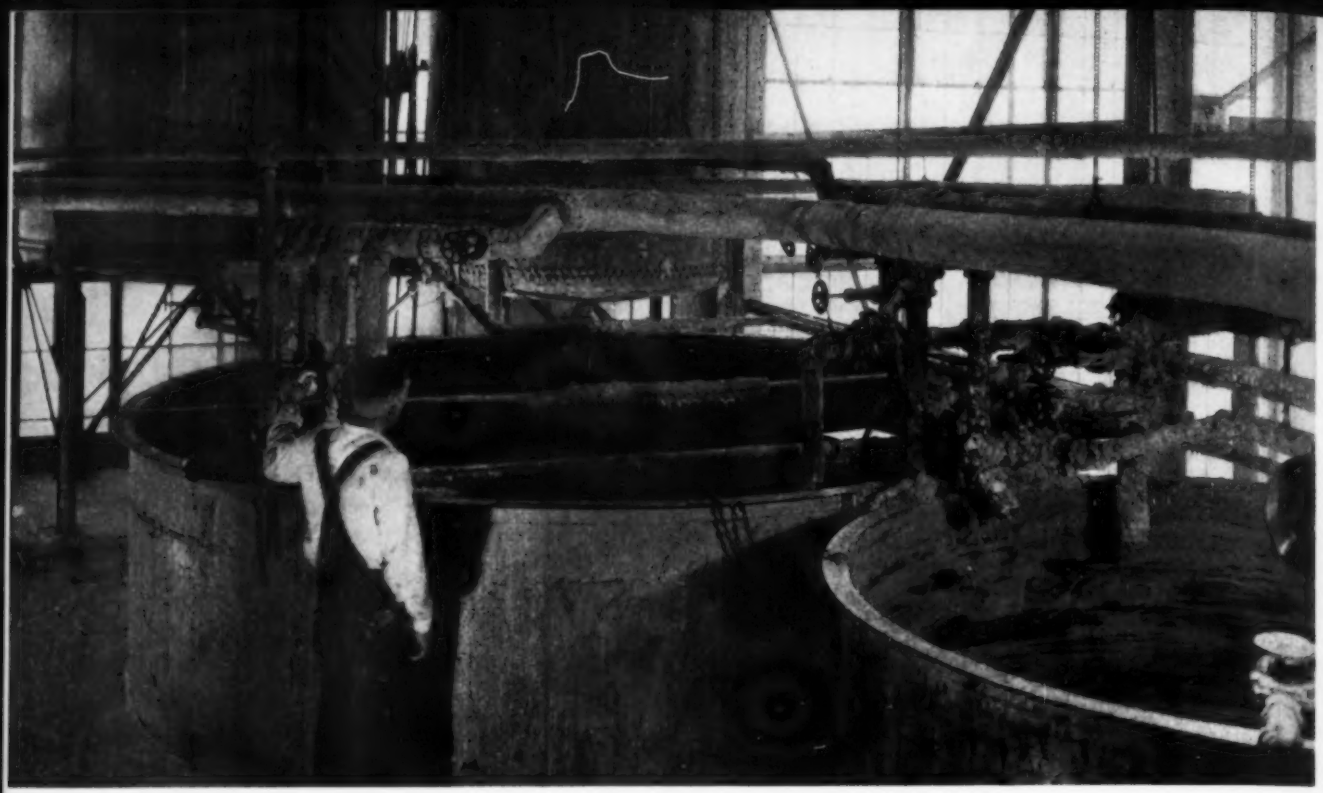
COMPARED to the manufacture of automobiles, rubber, steel and non-ferrous metal products, textiles, chemicals, and a host of other materials, the effects of a year of war on the soap industry have been small indeed. But nevertheless, many of the war problems which have affected other industries have been common also to soap manufacture. This has been particularly true in the case of raw material shortages, transportation difficulties and labor problems plus restrictions by W.P.B. and O.P.A.

During the past year, production emphasis by the soap industry has changed from soap to glycerine. Because glycerine is a vitally important war material, the soap industry has become a vitally important war industry. Pushing glycerine production to its maximum has of necessity meant keeping soap production at equally high levels. Thus there have been adequate supplies of soaps to meet a demand for military, industrial and civilian use which has undoubtedly been greater than ever before in history.

In spite of numerous reports down through the years that various processes for the synthetic production of glycerine have been found successful, when it came to the tremendous war demands of the past year, it was the soap plant and the fat splitters who were called upon to produce the needed material. With no time for procrastination, and with glycerine vitally needed for direct war purposes, American soapers increased recovery and refining facilities to supply promptly the greatly expanded demand. Through close voluntary cooperation with the War Production Board, the solution of this glycerine supply problem during the first year of war has been greatly to the credit of the entire soap industry.

But increasing production in the face of a dozen serious obstacles has not been an easy problem to solve. Take for example the matter of transportation alone,—merely getting raw materials into the plant so that they





would be available when needed in the kettles. The time was, before ceiling prices were established and before restrictions were placed on tank cars, that the purchasing agent had the choice of local or out of town purchases according to where he could find "soft spots" to advantage. Ceiling prices had the effect of localizing purchases. This localizing, however, created its own problems,—for instance the producers of tallow and greases in a locality might or might not have the capacity to supply the local consumer. If they do not have the capacity, then out of town purchases must be made. Tank car shipment, while permitted, nevertheless becomes difficult. In the case of local purchases, all else being equal, there is a natural tendency for the producer to sell to the shortest haul and for good enough reasons. The fat producer has his labor, tire and gasoline problems. Why burn gas and use rubber and labor unnecessarily?

Indication that the soap industry has transportation problems, and that they are recognized as serious problems of an important industry is found in WPB directive to the ODT recently reported. Under the directive, fats and oils for soap making, along with caustic soda and potash when transported in tank cars, will receive transportation priority immediately following that given material for Army, Navy, Maritime Commission, War Shipping Administration and Lend-Lease.

During the past two months, orders issued by the War Production Board have twice set limits on the amount of oils and fats which may be used by soap manufacturers. In the first order which amended M-71, soapers were limited to 90 per cent of oils and fats based on their average use during 1940 and 1941. This same order permitted use of fatty acids derived from foots to be 119 per cent of the consumption averages of these products for the same two years. These allocation figures permitted the exemption of fats used in producing soap for Lend-Lease, but soaps for Army and Navy use had to be included.

This order was subsequently amended so that oils and fats were set at 88 per cent in place of 90 and fatty acids from foots at 150 per cent in place of 119. But in addition, soaps supplied to the Army and Navy were exempted as in the case of Lend-Lease in the first amended order. This permits unlimited supply of fats for Army, Navy and Lend-Lease, with a supply for other purposes which may be sufficient, although the order, coming close to November 1, has really not had sufficient time in operation as yet for its full effects to be studied by soapers. But here again, the restrictions on soap manufacturers have not been as drastic as in many other industries.

For the past two or three months in the east, there has apparently been a dwindling supply of tallows and greases, probably due to a number of reasons such as voluntary rationing, high cost of meat, meatless days and increased demand for fats from users other than soap makers. As this situation becomes more acute, it may lead to some kind of regulation, but whether an adjustment of ceiling prices between edible and inedible fats would ease the situation, it is not the purpose to attempt to say here.

The National Fat Salvage campaign is another example of the effects of the war on soap manufacture. For years, probably a billion pounds or more of grease and fat have been wasted every year in the United States by restaurants, hotels, housewives and others. Cooking fat, once used, has often been thrown away. It has taken a war to bring about some sort of organized recovery of this tremendous waste, and the Fat Salvage Campaign has been the answer. If only 10 per cent of this fat is saved as a result of the cam

paign, it would be more than enough to take care of the 100,000,000 pounds of soap which is reported needed for the manufacture of synthetic rubber. Although the fats collected as for the most part are in the grease classification and serve this purpose in soap manufacture, they also serve to release other fats which can if needed be used for food purposes. The manner in which this campaign was organized and put under way in the first year of war deserves the commendation of the soap industry.

LOOKING at the mechanical side of soap making there is much evidence of the effect of war. Certain machinery, such items as pipe lines, valves, and fittings are just going to have to last longer. The War Production Board has been quite fair to soap manufacturers, and has recognized the industry as an important one. The industry has for its part "played ball" to the extent of conserving vital materials by using them longer than indicated by ordinary practice, and by substituting non-critical materials where ever possible. The writer knows of many instances where second-hand materials have been used instead of applying for preference ratings for new and vital material. In most instances, these items will last for the duration and longer. This attitude of the industry will undoubtedly cost soapers more in the long run, but it is a contribution to the war effort and should be considered as such.

More recently soap making machinery has been added to list A of Iron and Steel Conservation Order M-126. (November 5th). This means that no such machinery can be fabricated on and after December 5th, and that no such machinery can be assembled on and after January 4th. Repair and maintenance parts were excepted from the order. This means for the duration, more and stricter attention must be given to inspection and preservation of what is at hand.

In the labor situation, the effects of war have been plainly visible. Consider the loss of male labor due to the draft, and those who have left to work in other industries which pay wages that the soap industry, a highly competitive one, can ill-afford to pay. All of these workers have to be replaced with less skilled ones and for the most part much older and less productive. Female workers have always constituted a considerable percentage of the soap industry as compared with some other industries which until recently employed no female factory and plant workers. Here again the industry has lost to other industries and again has had to replace with older and less productive workers. It does not seem that any considerable percentage of plant work done by male help has been taken over by female help. Where female help has replaced male help, it has been mostly as elevator operators, porters and in clerical positions. It has been noticed that former female employees who had left their work for

married life are in a number of instances coming back to their previous employment. This is fortunate, because they only require a short time to attain their previous maximum usefulness.

On November 9th, the War Production Board issued its long expected, glycerine recovery order, M-193, the provisions of which are outlined elsewhere in this issue. To most of the larger manufacturers of soap, this order will not mean too much as they are and have for years been equaling or bettering its glycerine provisions. However, to the smaller concerns, it represents a choice offered some time ago, of investment of considerable money in equipment, or change in their formulas.

THE temporary loss of most of our regular coconut oil supply has no doubt been the outstanding problem that this year of war has brought to the average soap plant. Coconut oil highly regarded for both its physical and chemical characteristics, is our top-notch source of glycerine as far as the percentage of available glycerol is concerned. In the search to find something at least partly to replace coconut oil, many have turned to rosin, soya bean oil, special fatty acids, and other substitutes. Not generally known to the public and to the industry as a whole, is the fact that several well-known toilet soap manufacturers were using a small percentage of rosin even before Pearl Harbor, and with excellent results.

Foremost among the synthetics suggested by our low supply of coconut oil are those of the general formula $A\text{-}R\text{-}SO_3N_a$. All factors considered this and similar formula may be the answer to the coconut oil situation. However, it would seem that while "stringing along" with this class of detergents that the industry should not fail to examine other ideas that have the appearance of merit, if only for the reason that these latest synthetics have hardly as yet had the blessings of Father Time. In general, synthetic detergents have helped greatly thus far, particularly in the direction of hard and salt water soaps.

It appears likely that from now on some of the better grades of tallow will not be available in quantities comparable to normal times. Lend-Lease shipments, the new soaps required for synthetic rubber, and the differential between top grades of inedible and edible tallow have been cited as some of the reasons for this condition. It would seem, therefore, that there will probably be a larger demand for tallow just below this classification. Consider this condition and then note the latest report released by the Bureau of Census of the U. S. Department of Commerce, on factory consumption of primary animal and vegetable fats and oils for the first half of 1942.

If we double the six-months' figure for tallow consumed in soap and accept it as an indication of the 1942 yearly total use, then it will exceed the year of 1941 roughly by 18 per cent. Greases, according to this report, are likely to exceed the 1941 figure. It is to be hoped that the soap industry will realize from these figures that unless a hope of better supply can be obtained from agricultural reports, that the war has presented for 1943, a problem larger than any mentioned herein.

The effect of the war on perfumes and related problems were well recorded in *Soap* (Nov., '42) by Waldo Reis. It is interesting to note that by contrast with World War I, there are those in the soap industry who can recall that with the coming of the first war, the soap industry found that there were practically no aromatic chemicals on hand or means to produce them in the U. S., but the coming of the present war found the industry here well organized. It may also be noted that during World War I, which was fought practically all on Continental Europe, many sources of natural oils were open then that are not open today.

In general, the soap industry has been called upon to face a new set of manufacturing conditions during the past year which it had not faced in almost 25 years, and for the first year of this war has come through admirably. Considering all the problems, the industry has unquestionably done a mighty good job thus far. What the second and possibly third year of war will hold for the average soap plant, nobody knows, but the chances are that the problems will be greater than those of the first year, particularly in the matter of equipment which naturally will not last indefinitely. Some of the raw material problems will probably be solved permanently.

Progress in the field of fat chemistry particularly fatty acids and hydrogenation, will of necessity play a part in relieving raw material stringencies. In fact, with the outlook in certain directions in natural fats, the hope of the soap industry will have to be placed on the practical work of the fat chemists. Having weathered the first year in good shape, all that every soaper can do is to continue to prepare for the worst and hope for the best. If the worst comes, the industry will be ready for it. If it never comes, so much the better.

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Metal cleaning has become more and more of a problem with the current scarcity of chlorinated solvents and more exacting specifications. Sodium metasilicate is meeting this need, used both alone and in combination. A recent formula worked out for the difficult cleaning of light steel, uses a 1 per cent solution composed of 19 parts of sodium metasilicate (Metso) and 1 part of alkyl aryl sulfonate (Nacconol NR). The latter reduces interfacial tension and assists the metasilicate solution in removal of the grease film with only 2 seconds contact. *Chem. & Met. Engineering* 49, No. 10, 150 (1942).

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Sulfonated tallow finds use as a finishing agent on certain textile fabrics. In view of the present demand for fats, E. I. du Pont de Nemours & Co. has developed a new substitute product, Avitone A. According to the company's estimates, 100 pounds of it will perform the job done by 140 pounds of sulfonated tallow, and at a cost to compare favorably.

SOAP INDUSTRY OUTLOOK . . .

What appears to be ahead in production and sales for 1943?

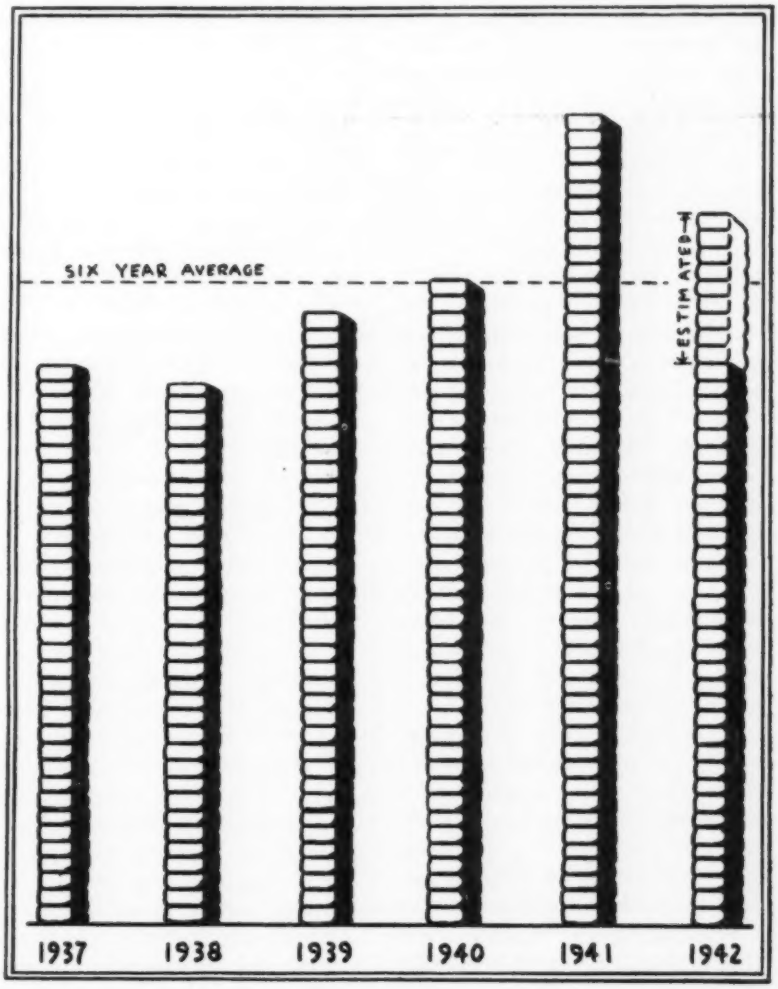
AS its most important contribution to successful prosecution of the war, the soap industry has reached record levels of glycerin production over the past two or three years. So long as oil and fat stocks continued to be available in large quantities, and markets were obtainable for the tremendous soap production which was inevitably entailed, this record rate of operations was of course welcomed by the industry. Over recent months, however, American soapers have been asking themselves some very important questions which have a direct bearing on their ability to continue peak production.

How much longer, they wonder, can the American soap industry continue to produce and sell soap at the record levels of the past two years? How much longer can the unique situation continue of an industry cut off from what have normally been among its most important raw material sources yet continuing to produce at rates that surpass all previous records?

Along with the rest of the industry, we, too, have been trying to dig out the answers, together with some associated facts about how the soap production and sales wave has affected various sections of the industry, in a series of conversations with soap executives and oil and fat experts over recent weeks. In brief, the consensus of trade opinion seems to be that the end of recent record production rates is already in sight. With tallow currently unobtainable by many soapers, with short supply of labor an increasing problem, with government controls on fat consumption, with stocks of all kinds in the hands of soap manufacturers believed to have been cut sharply over the course of the past three or four months, and with rationing of buyers already started unofficially by some soap manufacturers, it would seem that some interruption is inevitably in sight for the recent wave of peak production and sales.

To set the background, it would be well to review soap production and sales over the past few years. There are unfortunately no dependable figures on actual soap production. Figures of the U. S. Census Bureau on crude glycerin production serve as an acceptable alternative, however, as glycerin production could normally be expected to parallel soap output very

The trend in soap output over the past six year period, based on figures for glycerin production compiled by the U. S. Bureau of the Census. Peak production of soap and glycerin was reached in 1941. A declining trend has been noted over recent months.



closely. During the three year period 1937 to 1939, average annual production of crude glycerin was approximately 170,000,000 lbs. As compared with this average, 1940 production was 197,320,000 lbs., while production mounted in 1941 to the all-time record of 244,104,000 lbs. During the first three quarters of 1942, before fat rationing became effective, production has continued at a rate which would bring output for the year up to approximately 220,000,000 lbs. If these glycerin figures reflect soap production at all accurately, it would seem that over the past three years we have been producing soap at a rate thirty per cent higher than the average for the previous three year period.

The accuracy of this rough estimate is borne out in general by figures of the Association of American Soap and Glycerine Producers on soap sales. Average quarterly sale in the 1937-1939 period was in the neighborhood of 650,000,000 lbs. Over the course of 1940, 1941, and 1942, to date, average quarterly sale has been approximately 750,000,000 lbs. It should be kept in mind that these figures represent manufacturers' deliveries only, and do not necessarily reflect wholesale or retail sales exactly.

With production and sales of soap over the past three war years so far above normal, the natural questions arise as to where the increased production has gone, and whether or not the increase has been spread generally over the entire industry, or concentrated in a limited number of the larger companies. From what we have been able to learn from general opinion in the trade, it would seem that the answer to the second question is that the sales increase has been general. All soap makers we have contacted report that their sales over the past two or three years have been sharply higher than previous averages.

As to where the soap has gone the obvious answer seems to be to the Army, the Navy, to increased industrial demand stimulated by war needs, to higher consumption in the home, and finally into higher exports stimulated by the lease-lend program. For a time some of the increased production may simply have resulted in building up manufacturers' stocks, but these stocks are now believed to have been sharply reduced. On the basis of glycerin production figures, soap output declined approximately 15 per cent during the third quarter of 1942, as compared with second quarter figures. During this same period manufacturers' soap deliveries increased almost 24 per cent. The net result must very obviously have been to reduce manufacturers' stocks rather sharply. Whether or not stocks in the hands of wholesalers and distributors are higher or lower than they were six months ago cannot accurately be determined, but informed opinion in the trade is that the answer is in all probability "lower."

Turning back again to our comparison between recent soap sales rates and immediate pre-war levels, we find there has been an increase in production and sales of approximately 400,000,000 pounds of soap per year. How has this increase, we asked, been broken down? How much is represented in sales to Army, Navy, lease-lend soap, etc., and how much in increased domestic sales through normal consuming channels? Precise information is of course rather difficult to obtain, but approximations are possible.

The U. S. Navy is reported to have bought 45,000,000 lbs. of soap between October, 1940 and July, 1942. Similar production totals for the Army are not available, but the Quartermasters' Corps estimates that its requirements are approximately thirty pounds per man per year. This does not include soap bought by the men themselves through post exchanges. In judging the net effect of Army and Navy soap purchases, however, we must take into consideration that normal civilian demand of the uniformed forces must be written off.

In addition to direct Army and Navy purchases, the war has also stimulated tremendous demand for industrial uses of soap connected with the war effort. Some one hundred million pounds of soap are reported to be needed for the synthetic rubber program, of which substantial quantities have already been contracted for. Demand for soaps by the textile industry has been stimulated tremendously by Army calls for materials for uniforms. Sharply increased production of cutting compounds, lubricating greases, soap baths for shells, etc., has also contributed to increased soap output.

How large lend-lease purchases have been cannot be determined with certainty, but the trade already knows of one tremendous contract involving 64,000,000 lbs. of soap for Russia, on which contracts have already been reported awarded to the extent of 16,000,000 lbs.

As the final factor, how great has been the expansion in sales to usual consumption channels? In all periods of great industrial activity it has been normal for domestic sales to regular soap users to mount appreciably. The working man is busy and in possession of more than normal amounts of money. He gets more overalls dirty, feels free to put on more clean shirts, and to have them laundered with greater frequency. When he lays down the pick and shovel to spend a share of the weekly pay check, he is more liable to start operations by taking a bath. This is the most difficult sales increase to evaluate accurately, but estimates from those market students in best position to know indicate that normal consumption of the folks still at home is up at least five to ten per cent.

TURNING from the recent record to the future outlook, the oil and fat supply situation and consequent government restrictions on fat use in soap manufacture of course represent the most important threat to continued production at recent high levels. When we lost the Philippines we lost with them the most important normal American source for coconut oil. Shipping shortages have cut us off from other possible replacements which might be obtained from South America or Africa. In part, sharp increases in domestic production of fats and oils have helped to plug the gap, but with the need of shipping increasing quantities of our domestic production of fats to our allies in Europe, it is inevitable that smaller stocks of fats and oils will be available at home for use by the soap industry.

It is for these reasons, of course, that the controls imposed by General

Preference Order M-71 have been considered necessary. The original order permitted use by the soap maker of only ninety per cent of his average rate of consumption of fats and oils for the corresponding quarters of 1940 and 1941. His quota of consumption on fatty acids was set at a higher figure—119 per cent. Exempt from these quotas were all sales for lease-lend needs.

Several factors made it desirable to amend these quota arrangements, the new amendment being issued October 27. For one thing Army and Navy purchasing departments found some tendency on the part of soap manufacturers to dodge Army and Navy business, as it obviously embarrassed some plants severely to have service orders take such large chunks out of their oil and fat quotas that normal purchasers could not be served. In the amended order direct sale and delivery of soap by the *manufacturer* to the Army, Navy, Marine Corps and Coast Guard were accorded the same exemption from quota requirements that had been provided in the original order for lend-lease soap. To qualify for exemption the manufacturer must ship and bill direct to the Army, Navy, Marine Corps or Coast Guard. The exemption from quota restrictions does not apply on sales to other governmental agencies, to post exchanges, or to industrial establishments producing materials for the Army or Navy. The essential purpose of this amendment was to make soap manufacturers more ready to quote on needs of the armed forces.

Another change included in the amendment was the exemption from quota restrictions of soaps sold for non-detergent purposes.

Accompanying these modifications in restrictions was a slight decrease in quota on fat and oil consumption,—the soap maker now being allowed only 88 per cent of his 1940-1941 average, as against 90 per cent provided in the original order. At the same time permissible use of foots was boosted from 119 per cent to 150 per cent in an obvious attempt to encourage as much foots use in the soap kettle as possible.

Fat Rationing Questions

A NUMBER of questions have arisen regarding soap makers' permissible oil and fat quotas for soap manufacturing operations under M-71, the Fats Limitation Order. Following are some of the typical questions that have arisen, together with the correct answers, according to the best official opinion that we have been able to obtain.

Q. Are fats and oils used for making medicinal soap, medicinal soft soap, and soft soap used in making tincture of green soap U.S.P., governed by the quota restrictions?

A. Yes.

Q. Is there a quota restriction on the production of soap for sale for non-detergent purposes?

A. No.

Q. Is the use of soap in the manufacturing and processing of textiles to be considered a non-detergent use?

A. This question cannot be finally answered at the present time. It is being given consideration, and may be covered in a later amendment to the order. In the meantime, this use of soap should be considered as not exempt from the quota restrictions under the order.

Q. May A, a soap manufacturer having a quota within the terms of M-71, arrange to have his soap made for him on a toll basis by another soap manufacturer, B, who, using A's quota, buys the necessary fats and oils, makes them into soap as ordered by A, and delivers the soap to A?

A. Yes, provided B buys the fats and oils for the account of A, who must take and retain the title to the fats and oils and to the soap produced therefrom and who in addition must handle the selling, billing, and collecting for the finished soap.

Q. Can a soap manufacturer use domestic vegetable oil foots or fatty acids on the basis of 150 per cent of his total fatty acids consumption during the base period without regard to the origin, domestic or imported, of the fatty acids that were used during the base period?

A. Yes. The origin of the fats and fatty acids used in the base period does not affect the quota.

That it takes more than an amendment to a government order to get raw materials, however, is something which a number of soap makers have discovered over recent weeks. They are "permitted" certain oil and fat consumption, but have found much difficulty in buying the needed raw materials. The tallow situation has become particularly serious. The large soapers, who were formerly believed to carry from six months to a year's supply as a normal operating stock are reported now to be down to approximately a ninety days' basis. Most small soap makers, are believed to be down to a ten days' supply or less.

An additional factor threatening curtailment of soap makers' operations is the growing labor shortage. One firm in the metropolitan district, for instance, reports that though they are desirous of going on a two-shift basis to step up production, they are unable to get the necessary workers.

Still another threat to continued peak soap production is involved in the new restrictions on glycerin content. In the smaller plants, particularly, the restrictions on glycerin content of their finished soap may lead to lowered production rates. Even the tolerance allowed manufacturers of potash and cold-made soaps, who need cut their glycerin content only to a maximum of 2.75 per cent may still leave them serious production problems. They have been encouraged on the one hand, by a 150 per cent quota, to use more foots, but if they do try to make wider use of foots as soap stock they face complications in the glycerin restrictions. Foots containing over 20 per cent of neutral oil threaten to produce soap containing higher than the allowed glycerin content. Split vegetable oil fatty acids and fatty acids derived from soap stock also threaten the same complications, and only by starting with distilled fatty acids can the manufacturer of potash or cold-made soaps feel confident of producing end products that will pass the glycerin content restrictions, which, incidentally, may shortly become even more severe.

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OIL AND FAT OUTLOOK...

NEARLY a year has passed since America's main source of coconut oil was choked off and supplies of other diverse fats and oils were either completely eliminated or greatly reduced as a direct consequence of the war. The severance of trade and all other relations with the Philippines seems to have marked the beginning of a new era not only for the United States, but also for the American soap industry. That there would have to be drastic changes in types of raw materials going into the manufacture of soap, in manufacturing processes and in finished products, there was no doubt from the beginning. The important remaining question is the extent of further changes that may still be necessary and the best methods to adapt one's operations to meet the new conditions with the least possible disruption.

To assist in analyzing the future raw material picture, a brief survey of the oils and fats market was made to determine the outlook especially with a view to military operations at the present time in North and Northwestern Africa. Since this area of warfare is under strict military censorship, it is obvious that speculation regarding future movements of shipping, the crux of the whole oils and fats situation, is not conclusive, but tends merely to suggest possibilities that may or may not come to pass in the immediate or more distant future. However, many of the views presented come from people who are familiar with these areas from first-hand observation.

The fat situation in the United States is better known to most soapers. The war has made itself felt directly here in the matter of the oil and fat supply both adversely and beneficially. Unforseeable government restrictions and demands of the war obscure the long range picture, thus making predictions of the future somewhat uncertain. Restrictions already invoked indicate a trend toward the use of less fats and oils which seems to be confirmed in conversations with market authorities.

The tallow picture is not encouraging. From all quarters come reports of a definite tightness. Additional tallow demand and an already curtailed meat supply add up to an unmistakable shortage. Stories to the effect that tallow could not be purchased during the past month (November) were checked and confirmed. This was especially true in the case of new accounts or irregular ones. Unless a buyer had been dealing with a regular source for some time past, it has been difficult to obtain needed tallow. New York with its meat shortage is off in grease and tallow production by a fairly wide margin. Most of the meat that is coming into New York is already dressed, which lowers local tallow availability.

In Chicago the recent rate of hog slaughter has gone up, which is about the only bright spot in the animal fat picture. However, the meat is being trimmed closer. This reduces the amount of fat for grease, although it does increase edible fat volume. Another thing, Chicago is supplying our armed forces with most of their meat, much of which is going out of this country in ever-increasing amounts.

Population shifts to small communities where large war plants have opened up continue to overwhelm the local distribution set-ups. An illustration of this is a west coast Kaiser ship-yard town that had a mass population influx driving population figures up to 40,000 from about 1,500. As a result, many normal meat consumers were forced to live almost exclusively on a fish diet. This condition further cuts down also on waste fats salvage that has formerly helped swell grease and fat figures.

The increased hog slaughter in Chicago and the 88 per cent fat quota figure should tend to balance the tallow picture, but by no means have these two measures made any impression as yet. And with stocks of other oils and fats being rapidly used up or set aside for stockpiling, the burden on tallow and greases grows constantly heavier.

While the waste fats salvage campaign has helped, it is still short of potential goals set up for it. No official figures have been released as yet for the country as a whole, but in the instances where there are local figures, expectations have yet to be fulfilled. With bacon scarce and prices higher, less bacon is being used and less waste fats are collected from this source. The high quality of bacon grease makes it desirable to save and reuse, and the housewife may show a

Viewing future oil and fat supplies for the soap kettle after a year of war... tallow scarcity, African possibilities, bumper U. S. crops, fatty acids, coconut oil replacements

reluctance to turn it in. However, the campaign has been and is constantly being revitalized by newspaper, radio and other forms of publicity that are bound to help raise collection totals. In order to gain greater volume, the suggestion that bones and meat fat be turned in along with grease and drippings has been made and might help where every little bit counts.

A recent OPA ruling has lifted the ceiling price at which tallow can be sold by independent collectors to the renderer. The maximum figure has been raised from five to seven cents, plus transportation costs, and applies only to regions where renderers do not have their own collection systems. This ruling is expected to produce more waste fats, although the additional quantity cannot be too great since the big cities have their own collection systems and are not affected.

Lack of shipping space from South America is an important factor tending to restrict our imports of tallow and grease. The recently concluded United Nations agreement whereby the United States and Great Britain have divided spheres of influence as purchasing agents of fats, oils and oil seeds in various sections of the world may tend further to reduce American imports of tallow and grease. Much will go to Great Britain, rather than to the United States, since the shortage is more acute there.

SHIPPING with a capital "S" is the big obstacle to our acquisition of oils and fats from abroad whether they come from Asia, Africa or South America. This is the number one problem and must be borne in mind in discussions dealing with imports. The problem will continue to remain acute for the next year, at least, it is feared. Another problem, paradoxically enough, is the present one of storage space for our oils now on hand.

The completion by the end of 1943 of 24 million tons of ships may go far toward the solution of the shipping problem. However, as one importer pointed out, the type of ship that is being completed in three days is not the much-needed deep tank oil-carrying vessel or the refrigerator ship that could be used to bring beef from South America. And these latter are the types of ships where losses have been heaviest. However, Sun Oil ship yards alone are sending down the ways between one and two tankers a week, and so hope of a favorable shipping balance is not lost. Perfection of a system of safer convoying, a drop in ship losses, and clearing of the Mediterranean of enemy raiders so that many thousands of miles of shipping distance are cut off are all distinct possibilities of the near future. How long it will take to accomplish the last named feat is speculative, although, as on most military matters, to be on the safe side it is best to be conservative. Victories at the moment should not be permitted to mislead in viewing the oil outlook.

However, according to estimates published recently, some 850 ships were part of the convoy that saw the establishment of the African front. This brings to mind the question . . . "will they return empty, or can they bring back oils and fats?" It seems unlikely, according to the market experts consulted, that the Army will sanction the time needed to send these ships off to various African ports to get oil and other commodities so that they will return loaded. Probably they will be rushed right back to the ports whence they came, to be reloaded for another trip to Africa, or whatever ports the military heads see fit. There are rubber and minerals that are more vital to the direct production of war goods that would be given a preference over, say, fats and oils. So that, it was the consensus of these people that immediate (within the next 90 days) shipments of any oils or fats from newly opened African localities is doubtful. On the contrary, it was thought that it might be necessary for this country to export fats and oils for the troops stationed abroad and possibly the native populations as well.

For the most part, in northern

Tank storage space for additional oils and fats is already a serious problem in many sections of the U.S.

A year has passed since coconut oil shipments left the Philippines . . . coconut "rafts" awaiting shipment to the coast for crushing.

French West Africa, like many other Mediterranean lands, olive oil is the principal fat. In the past most of the olive oil has gone directly to the mother country, France, and thus we have paid little or no attention to it. Tunisia has long been an important source of olive oil. The Senegal region of West Africa, south of the area where the fighting is now taking place, and near Dakar, has been a large peanut and palm oil production area. However, since we have no adequate facilities for storing peanut oil, there is very little use in bringing it back from Senegal. Besides, since we have imported it in the past, it really should not be considered as an auxiliary in our present situation. Also, ships going to Senegal would be pulled several thousand miles off the more direct shipping route to and from northern French West Africa. The same is true of Liberia, from which we have obtained palm oil. Liberia is several hundred miles still farther south of Senegal.

Looking north to Tunisia again for a moment for a further look at the olive oil situation, the October 17, issue of *Foreign Commerce Weekly*, organ of the U. S. Department of Commerce, has this to say about Tunisia: "Latest unofficial estimates have set olive oil production in Tunisia during 1941-42 at 27,558 tons of edible oil and 2,500 tons of sulfur olive oil. Estimates of the 1940-41 crop were identical. So far, this season, 1942-43, growing conditions in the olive orchards have been favorable, and indications point to an increased yield. At the end of July, unofficial sources forecast a yield of 88,185 tons of edible olive oil and 10,000 tons of sulfur oil. It is reported that Tunisian reserve stocks are barely sufficient to meet domestic needs—about 33,069 tons annually—until the middle of November 1942, when new crop oil becomes available. June, July and August rations of olive oil were cut to slightly more than 1¾ pints per person a month." So, according to that report we may have to ship oil back to Tunisia. Another consideration which the *Weekly* overlooked was the loss of crops and pressing facilities due to fighting.

Now, while the immediate prospects of getting oil from Africa seem rather dim, there are aspects of the situation that bear further investigation. To the east is Egypt with its cotton and consequently cotton oil. There is also some palm in Egypt. From Egypt down through the Red Sea and into the Arabian Sea, which is the northern section of the Indian Ocean, is the route to India and Ceylon. There is copra in Ceylon and in India. Cottonseed, corn and peanut are also important Indian crops which will be available to us through the Mediterranean route, if. . . . These eastern Asiatic sources of supply increase in value in proportion to the clearing of the Mediterranean of enemy ships. When the threat from enemy ships has been eliminated in this area, thousands of miles can safely be cut from the former route around the Cape of Good Hope by sending ships through the shorter and more direct Mediterranean lane. By cutting off weeks of running time, the Allies will actually be adding ships to their fleet because they can make one ship do the work of two. All this speculation of course, is based on success in clearing the Mediterranean.

Consider continental Europe in the olive growing belt, in order of importance: Spain, Italy and Greece. These are the countries in direct line for invasion in the event of the opening of a "second front." Spain may purposely be by-passed in order to insure her neutrality and will possibly stop sending her oil to Germany in repayment of her Civil War debt. We will then be in a position to buy it, and quite possibly use it for soap, as in past years. Whatever is left of Italy's productive capacity after an invasion may be available to us, though much of it undoubtedly will be used to feed the hungry Italians. The Greek crop, if anything remains of it after the Germans are through with the country will be another potential olive oil source for the United Nations. Apparently there is still some production going on in Greece for recently a radio broadcaster joked that Greeks were naming the lower section of the olive oil presses Eisenhower, the upper half Anderson and the olives Rommel. The sharp drop in the use of olive oil in soap was all right when there were plenty of other oils, but in the near future, despite its price or the unreliability of the supply situation in the past, olive oil may regain some of its former volume in the United States.

Much has been written about babassu oil. Despite its publicity, babassu use in the U. S. has declined in the past few years. However, recently the United States entered into an agreement with Brazil to purchase ten million dollars worth of nuts and oil in the next four years. Unfortunately, there simply are not enough ships to carry babassu to the United States today. Coffee has had to have its shipping space reduced by 25 per cent, but this percentage and more is being used to transport aluminum ore. Vitally important castor beans are also coming in from South America.

THE domestic vegetable oil scene is a bright spot on an otherwise cloudy fat and oil scene. Since soapers will have to get along with a minimum of palm, palm kernel and coconut oils, other types of oils must continue to be substituted. Even though the substitutes will not give the same high quality soaps as the oils they replace, nevertheless the public and the soap maker will have to get along as best they can with them. The proposition that even after the war fats and oils will be scarce has been discussed as a distinct possibility. This might come as a result of the necessity of feeding and generally rehabilitating the European population in the post-war reconstruction period. This kind of talk takes on added significance as the government freezes additional quantities of vegetable oils. Of course,

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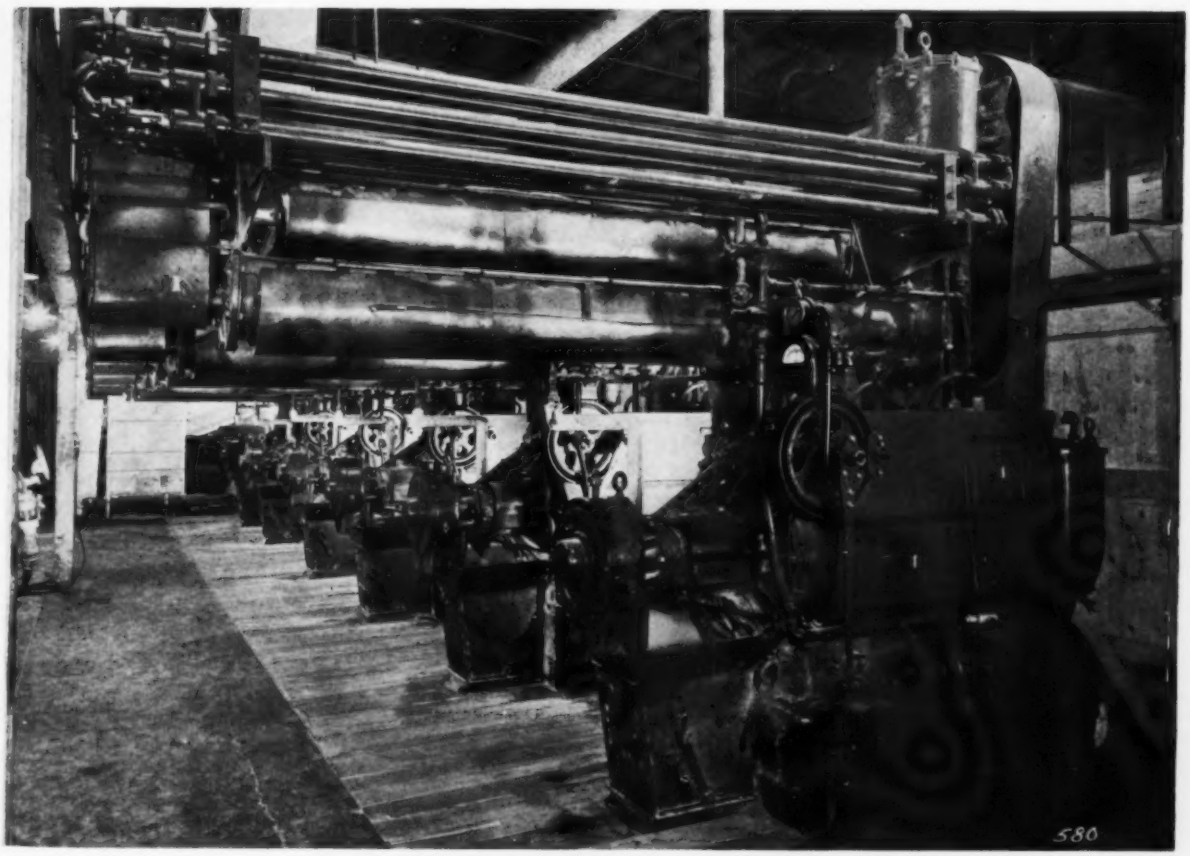


Bumper crops of domestic oil seeds are taxing crushing facilities to the limit. . . battery of Anderson Expellers.

New Products ...

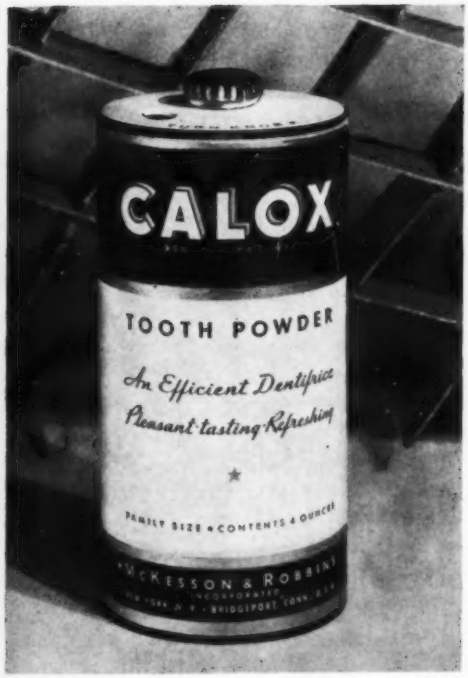
These four products are the latest additions to the line of Onthank Co., Des Moines, Ia., formerly "Streamlined Polish." New, too, are the labels and the change from tin to glass for packages.

Packaging for "Minipoo," the dry shampoo made by Annette Jennings, New York, has been streamlined down to neat pink and blue container housing terry cloth application mitt and a shaker-top dispenser box.

Another example of the war-time shift from metal to substitute material containers is that of Colgate tooth powder. The body of the containers is paper and screw top is made of plastic.

and Packages

Something new at Jaquet, New York, is Azalea soap. Packing, as shown here, is ten cakes to each gift box.



"Calox" tooth powder, a product of McKesson & Robbins, Inc., Bridgeport, Conn., requires no metal for its new container. The dial for turning the perforated paper disc at the top is plastic, the rest paper.

The entire "O-Cedar" line of polishes and cleaners has been repacked in green, amber and crystal glass bottles, as shown. Family resemblances have been maintained by the use of bottles of similar shape and color and lithographed labels which vary slightly in design for each item.

NEWS

Surveys Mexican Soap Industry

N. N. Dalton, technical consultant and glycerine expert for the Association of American Soap and Glycerine Producers, has recently returned from a trip to Mexico on behalf of the Board of Economic Warfare. While in Mexico he surveyed the soap industry of that country, with particular attention being devoted to the possibility of expanding Mexico's glycerine output.

L. Davis of Shulton Dies

Lionel Davis, 38, Los Angeles salesman for Shulton, Inc., died Nov. 20, in Santa Monica, Calif. For the past seven years he has been in charge of sales in the Pacific Northwest territory, covering department and drug stores in Washington, Oregon, Idaho and Montana.

Dec. Glycerine Schedule

The December glycerine allocation schedule which was released last month shows numerous reductions in allocation percentages. The reductions were heaviest in cosmetics and toilet preparation categories, although tobacco was sharply restricted and beverages, candy, gum and flavoring extracts were reduced to 70 per cent under the AA-1 or higher priority ratings. A-2 through A-10 and "others" ratings were mostly all reduced from 40 to 90 per cent. Only ones to go untouched were rubber, explosives, printing, and transparent wrappings.

Swift Offer "V" Calendar

Swift & Co., Chicago, are using four-color advertisements in national publications to offer a "Victory Calendar" free with three "Sunbrite" household cleaner labels. In addition to a specially painted patriotic picture and the date pad, the premium includes a world map and a series of wartime household hints and home cleaning short cut suggestions.

Bu-Tay Offers "Rain Drops"

Bu-Tay Products Co., Los Angeles, has introduced a new product, "Rain Drops," described as a combination water softener and soap supplement.

Protest Post Exchange Rule

The WPB ruling that exemption of Army-Navy soap purchases from the quota restrictions on fats under M-71 does not apply to Post Exchanges has brought forth numerous protests from soap makers, many of whom have pointed out that under Federal regulations, post exchanges legally are an instrumentality of the Army. Many soapers in planning soap production under M-71 restrictions, and in the light of the expectation that Army-Navy purchases would be exempt from these restrictions, have scheduled post exchange orders as Army orders so that a forced change in this respect now would work a hardship, they point out.

Anticipates Soap Sales Drop

Richard R. Deupree, president of Procter & Gamble Co., predicted a drop of ten to fifteen per cent in the business of Procter & Gamble Co. over the coming year as the result of government imposition of fat rationing in addressing the recent annual meeting of the P & G directors. More than ten per cent of the company's pre-war personnel, said Mr. Deupree, is now in war service, the company's service record listing over 1,200 men.

Pasadena Soap Sold

Pasadena Soap Products, Inc., Pasadena, California, was reported sold on October 26, to D. B. Lewis & Co.

New Curran Solvent

"Gunk P-96," a new concentrated self-emulsifying degreasing solvent, that it is claimed will dissolve, emulsify and remove heavy accretions of Bunker "C" fuel oil in the presence of salt water, has just been brought out by Curran Corp., Malden, Mass. Another feature of this new colloidal emulsifying solvent is that the degreased surfaces are particularly compatible for the application of red lead undercoat. Because of the claimed powerful penetrating and emulsifying action, all traces of oil are made water soluble and need only be sluiced with a water hose to rinse and decontaminate large areas such as the hold of a war ship.

Cumulus Man In Army

J. W. McReynolds of the Cumulus Co., soap makers, Kokomo, Ind., has left that firm to join the United States Army.

OPD Publisher Dies

Harry J. Schnell, 67, president of Schnell Publishing Co., New York, and publisher of *Oil, Paint and Drug Reporter* and *National Painters Magazine*, died Nov. 29, in Orange, N. J., after suffering a heart attack a week earlier. Mr. Schnell went to work at the age of 15 for the late William O. Allison, publisher of *Oil, Paint and Drug Reporter*, and he became general manager for Mr. Allison some years before the latter's death in 1925. As an executor of the Allison estate, he continued his late employer's publications. In 1941, he organized the Schnell Publishing Co. Mr. Schnell is a former president of the Drug and Chemical Club of New York, and the New York Paint, Varnish and Lacquer Association. He leaves a son, Harry J. Schnell, Jr., of the chemical division of the

Works Progress Administration in Washington, and a daughter, Mrs. William S. Auchincloss of Short Hills, N. J.

New Rubber Soap Specs:

The Rubber Reserve Company has recently issued revised contract specifications for soap and fatty acids to be used as emulsifiers in the manufacture of synthetic rubber. The principal change in the revised specifications is the raising of the iodine number from a 48 to a 52 maximum. This change was advocated by soap makers on the grounds that such a low iodine number caused the withdrawal of the highest grade tallow at a time when this and other types of ordinary fats and oils are restricted. Eastern tallow, with its higher iodine number, thus, can now be used.

Another important change in the specifications is the inclusion of a new paragraph (VI. Basis of Purchase). The preface reads:

"Chip soap is subject to possible gain or loss of weight, depending on atmospheric or storage conditions, or both, or on packaging, as a result of fluctuation in the moisture content. Changes in the moisture content result in a corresponding change in the percentage of total solids or anhydrous soap, or both.

(a) The material shall be purchased by net weight provided the matter volatile at 105° C. is neither above or below 8 per cent. (b) Deliveries containing more than 10 per cent of matter volatile at 105° C. shall be rejected without further test. (c) On deliveries containing less than 10 per cent of matter volatile at 105° C., settlement shall be made on the basis of a product containing 8 per cent of moisture that is, 0.92 lb. of nonvolatile matter shall be considered 1 lb. of soap. (d) When the material conforms to these specifications on a calculated 10.0 per cent moisture and volatile matter basis, the net weight of the material to be paid for shall be calculated as follows: $W = \frac{R \times (100-L)}{92}$ where W = net weight of material to be paid for on 8 per cent moisture and volatile matter basis; R = net weight of material as received and L = percentage of loss at 105° C. (e) In the event that the calculation under Paragraph (d) results in a figure greater than 100 per cent, due to low moisture content at the time of cutting, weighing and packing, the seller waives the right to invoice the purchaser for any amount in excess of 100 per cent."

Florasynth Executives on Trip

Dr. Alexander Katz, chief chemist for the Florasynth Laboratories, Bronx, N. Y., and F. O. Daiker, specialty man for the firm, have just completed an extensive tour of the Pacific Northwest. In Seattle, Dr. Katz met with Louis A. Rosett, president of Florasynth Laboratories, to plan further coverage of production facilities and to continue their investigations. While traveling in the Northwest, Mr. Rosett visited his son, Lieutenant Kenneth Rosett, who is stationed at Walla Walla, Washington, in the Chemical Warfare Service.

Soapers' Sons in Armed Forces

Sons of well-known soap makers are reported to be plentifully represented in the American armed forces. Some are in training, others are about to receive commissions, many are overseas. Included among the many soap makers who have sons in active service are George A. Wrisley, John R. Deupree and Carter D. Poland.

George A. Wrisley, Jr., son of George A. Wrisley of Allen B. Wrisley Co., Chicago, is at present enrolled at Officer's Candidate School at Quantico. After completion of the ten-week course, he will be commissioned as a 2nd lieutenant in the Marines, and then according to the specific requirements and needs of the Marine Corps will be eligible for further specialized training.

In April, 1941, eight months before the outbreak of war, John R. Deupree, second son of John R. Deupree, president of Procter & Gamble Co., Cincinnati, was inducted into service. After spending several months in training at Fort Knox, Ky., he entered Officer's Candidate School and received his commission as a 2nd lieutenant shortly thereafter. He later became attached to Company F of the 13th Armored Regiment and in May, 1942, was shipped overseas with his regiment.

Before Carter D. Poland, Jr., son of Carter D. Poland, president of Poland Soap Works, Alabama, was drafted, he held a responsible position at his father's plant. His knowledge, obtained from working at Poland Soap Works since he was a boy, was put to good use in the Army. Carter entered the service in June, 1941, at Fort McClellan, Alabama, and was assigned to Station Hospital. His duties there were varied. He served as pharmacist, mess sergeant, property sergeant for the Medical Division, and in addition, found time to be editor of the hospital's publication "Medico News." Private Poland in rapid succession advanced to Corporal, Buck Sergeant, Staff Sergeant, and finally Technical Sergeant. In September, Carter was ordered to Officer's Candidate School and has just received his commission as 2nd lieutenant. At present, he is stationed at Camp Tocca, Ga., a camp for training paratroopers.

Leo G. Peck, treasurer of Pecks Products Co., St. Louis, and son of G. P. Peck, is now a First Lieutenant in the Adjutant General's Department of the U. S. Army and is stationed at Camp Wallace, Galveston, Texas. Lt. Peck who has been on active duty with the Army since April, 1941, was promoted to first lieutenant last August. Prior to entering the Army, Lt. Peck was in charge of sales for Pecks Products. He is a graduate of the University of Missouri. Al Peck remains in charge of manufacturing operations at the plant.

"Zero" Ammonia Replacement

Beacon "Zero," a replacement for ammonia, has just been introduced by Beacon Chemical Corp., Philadelphia, makers of "33" bleach. "Zero" is claimed to be "odorless and fumeless" and requires no essential ingredients in its manufacture. An extensive radio, newspaper and point-of-sale advertising campaign backing up the new product is scheduled to break as soon as national distribution is complete.

Allies Control Aromatic Sources

With the fall of Reunion Island into Allied hands, the last remaining African essential oil producing region has been opened to Allied markets. Reunion produces geranium, vetiver, ylang ylang and vanilla beans. With Algeria, Madagascar, the Comoras and Reunion under Allied domination, the major sources of geranium and ylang ylang are under their control. Java is now the only producing center of vetiver not under the control of a friendly nation.

Glycerine Recovery Rules

CONSERVATION ORDER M-193, issued early last month and effective December 1, 1942, sets up certain standards of production efficiency in glycerin recovery for the soap, fats splitting and glycerin refining industries. Under provisions of the order, anyone who consumes more than 10,000 lbs. of fats and oils monthly in any process in which glycerine is produced is required by the WPB to recover glycerine in the following prescribed manner: When making boiled settled soap the amount of glycerine (free or combined) remaining in the finished product shall not exceed one per cent calculated on an anhydrous soap basis. And not less than 92 per cent of the glycerol content of the spent lye shall be recovered as crude glycerine (100 per cent glycerol basis). Secondly, in splitting fats and oils the split must be 95 per cent complete (except as permitted for liquid, potash, cold-made or half-boiled soap). Not less than 94 per cent of the glycerol content of sweet waters resulting from the split shall be recovered as crude glycerine (100 per cent glycerol basis). Thirdly, anyone may use domestic glycerides in the manufacture of any liquid, potash, cold-made or half-boiled soap, providing that the glycerol remaining in the finished product shall not exceed 2.75 per cent on an anhydrous soap basis. Fourthly, in the making of mixtures of boiled settled and half-boiled soaps, the glycerol content shall be proportionate to the amounts permitted for boiled settled and half boiled soaps. Finally, in refining, not less than 96 per cent of the glycerol content of "fair average quality crude glycerine" as defined in the order must be recovered as refined glycerine (100 per cent glycerol basis).

There are four general exceptions to the regulation. 1. Those who use less than 10,000 lbs. of fats and oils per month. 2. Those specifically exempted by the Director General of Operations who are recovering the maximum amount of glycerine with the facilities owned and operated at the time. 3. The sulfonation of any fats and oils, alkali or acid refining of fats and oils, manufacture of lubricating greases, or processing of food. 4. The manufacture of medicinal soap, U.S.P. XII to fill orders for medicinal use only.

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Require Glycerin Certificates

Every soap maker who saponified more than 3,500 pounds of fats, oils or fatty acids during the month of November, 1942, is required under M-193, the glycerin recovery order, to file with WPB not later than December 15 a Certificate of Glycerine Recovery on Form PD-712. The order also applies to glycerine refiners and to others saponifying or hydrolyzing the prescribed quantity of oils and fats in any process which glycerine is recovered. The standards of glycerine recovery prescribed in M-193 did not become effective until December 1, but reports are required for November operations.

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WPB Bans Soap Machinery

Conservation Order M-126 as revised Nov. 5, adds soap-making and collapsible tube-filling machinery to its List A and that means no such machinery can be assembled on or after January 4, and that fabrication is prohibited on and after December 5. Maintenance and repair parts are excepted from the order.

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Canada Has New Soap Laws

Rules intended to govern uniformity of weight, size and quality of soap and soap products were recently made effective in Canada by the administrator of oils and fats for the War Prices Board. Under the order, manufacturers must show clearly on the containers of their products the packaged weight of all granulated powder or sprayed soap, soap chips, or flakes, washing powders, cleaners and scouring powders manufactured by them. Further, the order states that the weight of bars of toilet and laundry soap and bar cleansers must not be changed. The only change in quality permitted under the new ruling is an improvement in quality. However, no upward change in price will be permitted if such improvements are made. Quality, types and prices of soap and soap products were frozen at the basic price ceiling period of 1941.

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Red Cross on "Home Soap"

The National Red Cross has denied initiating or authorizing the home soap-making project undertaken by the Tuxedo Park (N.Y.) Chapter, as described in the *New York Times* recently, and is also reported opposed to home soap-making as a Red Cross project. As a result of the Tuxedo Park incident, the vice-chairman of the Nutley, New Jersey, Chapter of the Red Cross, sent a vigorous letter of protest to the chairman of the Tuxedo Park Chapter. The letter objected on the grounds that many people will believe that "home soap-making" is a fair sample of Red Cross activity. It went on to point out that good waste kitchen fats are used to make this home-boiled soap when they might be put to better use in the manufacture of explosives. It concludes that "a story like this tends to create a totally false impression about Red Cross work and may do our organization great harm."

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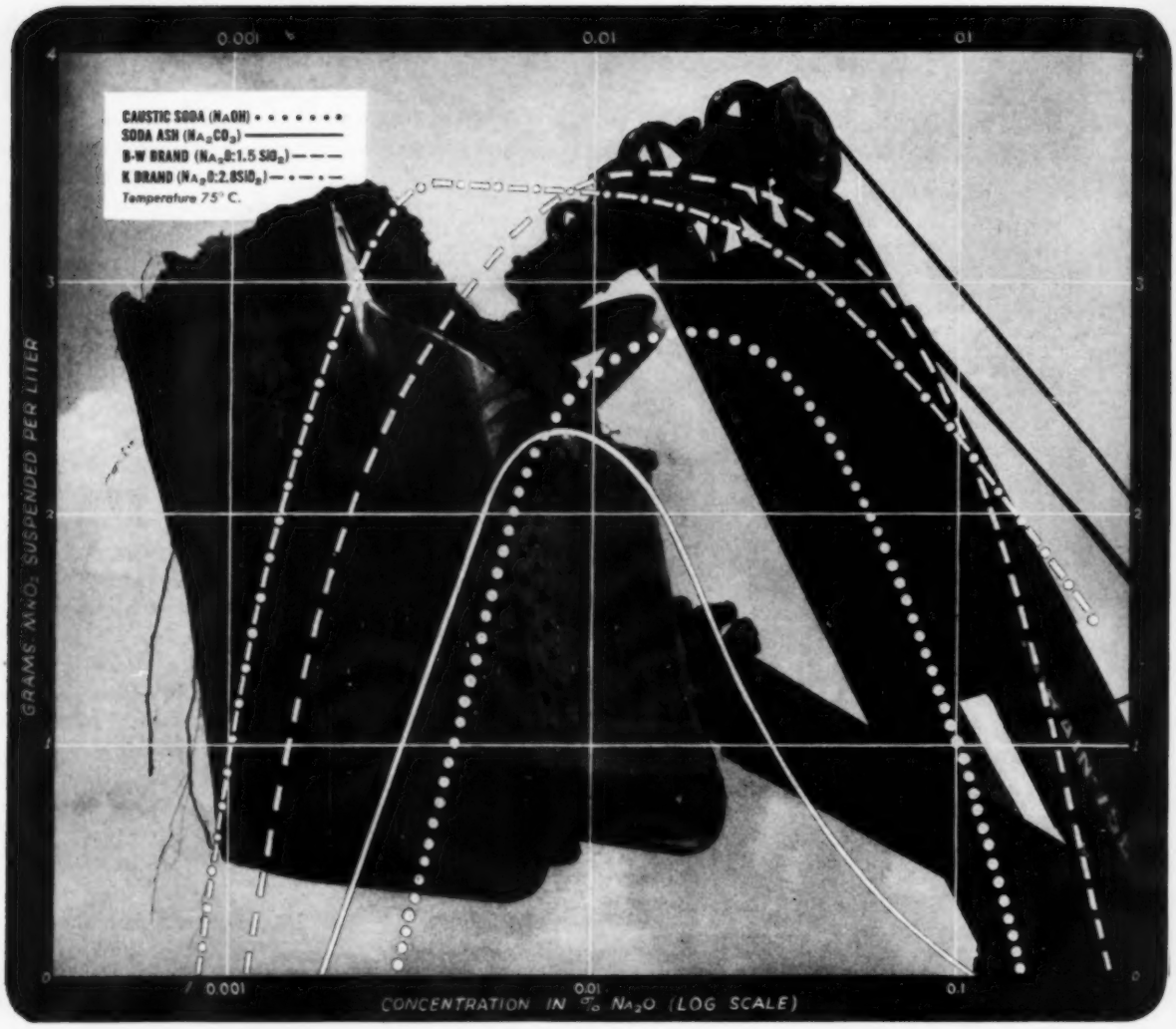
CD&CA Xmas Party Dec. 17

The 40th Annual Christmas Banquet of the Chicago Drug & Chemical Association will take place at the Drake Hotel, Thursday, December 17. The cocktail party immediately preceding the banquet will begin at 6 p.m. and the dinner at 7 o'clock. In place of the customary souvenir bag the association plans to distribute a gift package to each member attending, in addition to door prizes for all. Carl Black, of the Chicago office of S. B. Penick & Co., is chairman of the banquet committee. The November meeting was held in the Union League Club on November 19. Moving pictures of a Northwestern University football game were shown.



How SiO_2 Aids Cleaning

PQ Silicates Keep Dirt Aloft

When you measure detergent action, you look for stable suspension of solid dirt. PQ Silicates of Soda qualify as your effective, economical suspenders. Subsequently they rinse away, preventing re-deposit of the removed dirt.

The specific effect of the silica content in this phase of cleaning is clearly indicated in the above chart. Note the wide range of concentration over which the silicate solutions exert good deflocculating action in comparison with the same amounts of titratable sodium oxide in other alkalis.

May we tell you about this and other valuable detergent properties contributed by PQ Silicates to cleaning compounds and soaps? Send for Bulletin #170, "The Role of Silica."

PHILADELPHIA QUARTZ CO.

SILICATES OF SODA

125 S. THIRD STREET, PHILA., PA.

Revise Soap Ceilings

Price squeezes on a group of soap wholesalers were relieved by recent action of the OPA, lifting the ceilings at which certain transactions might permissibly be made. The amendment (No. 46 to Supplementary Regulation No. 14) is carried in full in the November 3rd issue of the *Federal Register*. The following essential paragraphs are taken from the amendment. Accompanying the order is a list of maximum prices on some 100 soap products, referred to in the amendment as Appendix A (See Columns 2 and 3).

Any seller at wholesale of household soaps or cleansers may, at his option, establish as his maximum prices therefor the maximum prices hereinafter established in lieu of the maximum prices therefor established pursuant to other provisions of the General Maximum Price Regulation.

Any seller at wholesale of a household soap or cleanser whose price therefor in August 1941 was more than the manufacturer's carload delivered price before cash discount, may sell such soap or cleanser at the price therefor set forth in Column A of Appendix A hereof, or if such soap or cleanser is not listed in such Appendix A he may sell such unlisted soap or cleanser at the manufacturer's carload delivered price therefor before cash discount plus one per cent of such manufacturer's price.

Any seller at wholesale of a household soap or cleanser whose price therefor in August 1941 did not exceed the manufacturer's carload delivered price before cash discount may sell such soap or cleanser at the price set forth in Column B of Appendix A hereof, or if such soap or cleanser is not listed in such Appendix A, he may sell such unlisted soap or cleanser at the manufacturer's carload delivered price before cash discount.

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* The maximum prices set forth in Column A of the accompanying table are established only for wholesalers whose maximum price for the product named was, in August 1941, more than the manufacturer's carload delivered price therefor before cash discount. Any person who determines his maximum selling price under this amendment—to Supplementary Regulation No. 14 must keep the records and make the reports required under subdivision (iii) and must give the notice to buyers required under subdivision (iv).

FINE FABRIC PACKAGE SOAPS

Brand name	*Pack*	*Weight (per item)*	*B Price per case*	*A* Price per case*
LARGE				
Lux	20	12½ oz.	$4.10	$4.14
Ivory Flakes	24	12½ oz.	4.85	4.90
Ivory Snow	24	12½ oz.	4.85	4.90
Dreft	24	8¾ oz.	4.85	4.90
Vel	24	12 oz.	4.85	4.90
Klek	24	17½ oz.	4.27	4.31
REGULAR				
Lux	100	5 oz.	8.25	8.33
Lux	50	5 oz.	4.15	4.19
Ivory Flakes	60	5 oz.	4.85	4.90
Ivory Snow	60	5 oz.	4.85	4.90
Dreft	60	3 2/5 oz.	4.85	4.90
Vel	48	4½ oz.	3.88	3.92
Klek	48	8½ oz.	4.17	4.21
GIANT				
Lux	9	28 oz.	4.00	4.04
Dreft	9	23½ oz.	4.753	4.80
Vel	9	32½ oz.	4.75	4.80

PACKAGE LAUNDRY SOAPS

LARGE				
Rinso	24	24 oz.	$4.900	$4.95
Oxydol	24	24 oz.	4.899	4.95
Super Suds Concentrated	24	24 oz.	4.90	4.95
Chipso Flakes	24	21½ oz.	4.899	4.95
Chipso Granules	24	21½ oz.	4.899	4.95
Silver Dust	24	21½ oz.	5.190	5.24
Selox	24	17½ oz.	2.959	2.99
Duz	24	21½ oz.	4.899	4.95
American Family Flakes	24	21 oz.	4.947	5.00
White King Granulated	24	29 oz.	6.290	6.35
White King Granulated	24	22 oz.	5.03	5.08
Magic Washer	24	25 oz.	4.70	4.75
Fels Naptha Chips	24	21 oz.	4.20	4.24
REGULAR				
Rinso	60	9 oz.	4.90	4.95
Oxydol	60	9 oz.	4.899	4.95
Super Suds Concentrated	60	9 oz.	4.90	4.95
Chipso Flakes	60	8½ oz.	4.899	4.95
Duz	60	8½ oz.	4.899	4.95
American Family Flakes	60	8 oz.	4.947	5.00
White King Granulated	48	9 oz.	4.260	4.30
Magic Washer	60	8 oz.	4.70	4.75
Fels Naptha Chips	60	8½ oz.	4.20	4.24
GIANT				
Rinso	8	69 oz.	4.600	4.65
Oxydol	8	69 oz.	4.608	4.65
Super Suds Concentrated	8	69 oz.	4.61	4.65
Duz	8	62½ oz.	4.608	4.65
White King Granulated	12	48 oz.	5.25	5.30

TOILET SOAPS

Brand name	*Pack*	*Size*	*B Price per case*	*A Price per case*
REGULAR				
Lifebuoy	100	Regular	$6.000	$6.06
Lifebuoy	50	Regular	3.025	3.06
Lux Toilet	100	Regular	6.00	6.06
Lux Toilet	50	Regular	3.025	3.06
Camay	144	Regular	8.633	8.72
Camay	72	Regular	4.365	4.41
Palmolive	144	Regular	8.63	8.72
Palmolive	72	Regular	4.37	4.41
Fairy	72	Regular	3.25	3.28
Woodbury	144	Regular	10.15	10.25
Sweetheart	100	Regular	5.82	5.88
Sweetheart	50	Regular	2.91	2.94
Swan	100	Regular	5.35	5.40
Ivory (Medium)	100	Medium	5.335	5.39
Lava (Medium)	100	Medium	5.287	5.34
Lava (Medium)	50	Medium	2.668	2.70
LARGE				
Swan	100	Large	8.96	9.05
Swan	50	Large	4.53	4.58
Ivory	100	Large	8.924	9.02
Ivory	50	Large	4.511	4.56
Lava	100	Large	8.003	8.08
Lava	50	Large	4.074	4.11

(*Turn to Page 53*)

Allocate Petroleum Sulfonates

Petroleum sulfonates—mahogany soap, mahogany sulfonate, sodium sulfonate, soap base, oil or water soluble sulfonates and their metallic salts have been put under strict allocation control by recently issued WPB Order M-188.

BACKGROUND VALUES . . . a PART of the product, APART from the price

A good product deserves a good package: accuracy and care in our bottling department contribute to the customer's satisfaction at the delivery end of an order. Above: Operators applying our exclusive, tamper-proof top. Left: In our packing and shipping departments, skilled hands and expert direction enable us to dispatch hundreds of orders daily without mishap. Right: This truck pit, providing street level conditions twelve stories up, is an indispensable factor in our long record of prompt deliveries.

DELIVERING the goods *on time*, these days, is something of an achievement, yet that is what we have been doing, with very few exceptions, ever since the present emergency began. To those who have dealt with us year after year, this record is not surprising, for these customers have come to know that accuracy and promptness in the filling and delivering of orders are characteristic of Fritzsche service. To make this policy effective, it is only natural that we have had to evolve a system of careful coordination and efficiency in all departments concerned with the handling of orders. Getting our products delivered, therefore, in the face of—and in spite of—present difficulties, does not constitute an altogether new or insurmountable problem. Given fair cooperation by our customers in anticipating their needs somewhat in advance, our packing, shipping and traffic departments can be counted upon to deliver the goods *when* wanted, *where* wanted and *as* wanted . . . and that means precisely *on time!*

Incidentally, this dependable service adds not a penny to your costs . . . it's all a PART of Fritzsche products, APART from their price! May we send you our catalog?

FRITZSCHE BROTHERS, Inc.

PORT AUTHORITY COMMERCE BLDG., 76 NINTH AVENUE, NEW YORK, N. Y.

BRANCH STOCKS

BOSTON CHICAGO LOS ANGELES ST. LOUIS TORONTO, CANADA MEXICO, D. F.

FACTORIES AT CLIFTON, N. J. AND SEILLANS (VAR) FRANCE

Headquarters for ESSENTIAL OILS • FLAVORS • AROMATIC CHEMICALS • PERFUME RAW MATERIALS

Soaps at Safety Show

SOAPS and protective creams for control of dermatitis among industrial workers were featured by numerous manufacturers at the Safety Exposition staged in connection with the 31st National Safety Congress in Chicago, Oct. 27 to 29. Floor maintenance materials and chemical specialties for plant sanitation were also displayed by producers of these lines. Companies exhibiting, and the products shown, were as follows:

Magnus Chemical Co., Garwood, N. J.—Industrial soaps and cleaners, hand cleaners, "skin gards" etc.—Thos. F. O'Brien in charge.

Onox, Inc., San Francisco—Showing "Onox," a skin toughener for prevention of athlete's foot.—James de Tremery, president, and Leon C. Egner, Chicago district manager.

West Disinfecting Co., Long Island City, N. Y.—"Lan-O-Kleen" powdered hand soap, protective creams, disinfectants, deodorizers, drip machines, soap dispensers and other products for promotion of sanitation.—Wm. Flatow, Jr., advertising manager, and ten assistants.

G. H. Packwood Mfg. Co., St. Louis.—"Pax" line of safety soaps and skin cleaners for industrial plant use. New advertising literature with special appeal to munitions makers distributed.—Wm. Schroeder, sales manager, St. Louis, and H. B. McInnes, Chicago representative.

E. D. Bullard Co., San Francisco.—"Hand-i Septic" skin protector and "Hand-i Klenz" sulfonated oil skin cleaner, manufactured by Kolar Labs., Chicago.—G. M. Glidden, Chicago district manager, E. W. Bullard, San Francisco, and others.

C. B. Dolge Co., Westport, Conn.—"Alta-co" for control of athlete's foot, "Steridol" cutting oil disinfectant, "Prevento" hand cleaner, foot baths, fumigants, etc.—Clarence L. Weirich.

Oakite Products, Inc., New York.—Maintenance cleaning materials and a "custom-fitted" war-time advisory cleaning service promoted. "Deodorant No. 1," an odorless product, was featured.—J. C. Leonard, Chicago division manager.

E. I. du Pont de Nemours & Co., Wilmington. — "Pro-Tek" hand protective cream.—A. B. Van Seiver, Chicago district manager.

Lightfoot Schultz Co., New York.—"Lightfoot" line of hand soaps, new, all-plastic soap dispenser.—W. E. Pemberton, Chicago district manager, A. C. Sorensen, New York, Oscar O. Baddeley, Milwaukee.

Milburn Co., Detroit.—"Ply" protective cream, provided in ten formulae for treating specific skin irritations.—Jos. Stifter, company president.

J. A. Meinhardt & Co., Chicago. — Liquid and powdered hand soaps, deodorants and other sanitary chemical products. "Fire Out," new fire extinguisher, was also shown.—J. A. Meinhardt, company president.

Standard Safety Equipment Co., Chicago.—"Economy" skin shield, protective cream.

Bradley Washfountain Co., Milwaukee.—Wash fountains, multi-stall showers and drinking fountains.—Roy C. Carlson.

Finnell System Inc., Elkhart, Ind.—Floor seals, powdered wax, electric floor maintenance equipment. "Han-Kleen," a new powdered hand soap. R. M. Bliss, sales promotion manager, Elkhart, and George A. Will, Chicago representative.

Walter Legge, Inc., New York.—"Leco" and "Safco" lines of non-slip floor polishes and treatments. Walter G. Legge, president, New York, and J. Paul Glenn, Chicago district manager.

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Chi. Soap Assn. Xmas Party

The annual Christmas party of the Chicago Perfumery, Soap & Extract Association, Inc., will take place in the grand ballroom of the Sherman Hotel, at 6:30 p.m., Saturday, December 12. In addition to dinner, a floor show and dance music, the Association is giving away the usual gift bag with each two tickets purchased. Cost of the tickets is five dollars each. Reservations should be made with Walter R. Nay, Mallinckrodt Chemical Works, 128 No. Wells St.

◆

Merkel Joins Colgate

Kenneth W. Merkel recently joined the perfuming department of Colgate-Palmolive-Peet Co., Jersey City, N. J. He was director of the perfume laboratory of George Lueders & Co., New York, for four years prior to joining Colgate. Other associations include five years in the manufacture of cosmetics and seven years as perfumer and sales manager in the essential oil business.

◆

Reissue Soap Specks

Davies-Young Soap Co., Dayton, O., resumed publication of its monthly house organ, "Soap Specks," with the October, 1942, issue. It is standard 6x9 pocket size of eight pages per issue, carrying mostly practical information on soap and wax applications, sanitation maintenance, trade news, and advertising of D-Y products. Copies may be obtained by writing direct to Davies-Young Soap Co.

◆

Shulton Employees Annual Dance

Employees of Shulton, Inc., New York, held their annual dance the evening of November 20 at the Joseph E. Brandt Jr. H. S., Hoboken, N. J. Entertainment was provided by Shulton's own employees. Jack Carrig, a member of the Shulton staff was chairman of the managing committee.

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Wrisley Credit Union Meets

The Employees Credit Union of the Allen B. Wrisley Co., Chicago, at their recent annual business meeting, reported assets of $35,772.18. George A. Wrisley, company vice president, who has taken close personal interest in the organization since its inception, was a guest at the annual dinner at the Clearing Club. Thomas W. Doig, assistant manager of the Credit Union National Association, was guest speaker at the affair.

Active in Civil Air Patrol

Robert L. Holland, executive of Harry Holland & Co., Chicago distributors of Procter & Gamble by-products, has been in the limelight lately in connection with his activities in the Chicago area Civil Air Patrol. The group, which functions as part of the local Civilian Defense organization, maintains 60 airplanes and 100 civilian pilots, subject to call day or night for free courier service in war emergencies. Mr. Holland, who is personnel officer of the Civil Air Patrol, is active in affairs of the Chicago Drug and Chemical Association and was chairman of its golf committee during the past season.

CSA Xmas Party Dec. 17

The 21st annual Christmas party of the Salesmen's Association of the American Chemical Industry will be held December 17, at the Edison Hotel, New York. Cocktails will be served at 6:30 p.m. and dinner will begin at 8:30. The affair will feature the usual dinner and entertainment program, but this year a portion of the proceeds will be donated to the Service organizations through the distribution of War Bonds. Reservations may be made through Charles Alexander of Seldner & Enequist, secretary of the Association, and chairman of the party. The admission price is eight dollars per person.

Hoffman Naval Lieutenant

H. J. Hoffman, formerly Chicago sales manager for the G. H. Packwood Mfg. Co., St. Louis, producers of industrial soaps, was recently commissioned a lieutenant, junior grade, in the U. S. Navy, which he entered last summer.

Albert E. Starkie Dies

Albert E. Starkie, 49, died suddenly at his home in Oak Park, Illinois, on November 13, as the result of a heart attack. Born in New York, he spent his entire business life in the paint, oil and associated industries. Like his father before him who was associated with the oil and glycerine industry, at one time in charge of the New York sales office of Harshaw Chemical Co., Mr. Starkie established his own brokerage and manufacturers' agency business in Chicago, which he conducted for many years. He is survived by a widow, three sons, a daughter and five brothers.

Offer New Household Cleaner

Solventol Chemical Products, Inc., Detroit, promoted their new all-purpose concentrated household cleaner, "Solventol," at a recent convention of hardware manufacturers, wholesalers, jobbers and retailers in Chicago. Packaged in an air tight container of tin, glass or fiber paper, it is recommended for dishes and laundry work as well as for cleaning woodwork, porcelain or metal surfaces. W. H. Holmes is sales manager.

Edw. Welcke Dies

Edward W. Welcke, treasurer of Welch, Holme & Clark Co., New York, for a number of years prior to his retirement in September, 1929, died November 22nd at his home in Mount Vernon, N. Y. Mr. Welcke was a veteran of many years of service with Welch, Holme & Clark, having originally joined the company in 1896.

New Hand Cleaner Package

Chemical Manufacturing & Distributing Co., Easton, Pa., has just added a new mechanic's hand cleaner to its "Target" brand line of soaps and cleaners. Unlike former packages for products of this type, it is packed in a shaker top can of the kind most often used for the packaging of kitchen cleansers.

Change Date of M-71

Effective date of the WPB Fat Limitation Order, M-71, which was originally to have been September 1, was postponed to October 1, in an announcement made by the WPB on November 24. Thus the first period covered, like all succeeding periods, will be a calendar quarter. Retroactive application of the order, which was not announced until September 22, was found to have worked hardships in certain cases, making the change in effective date advisable.

New Materials Plan

The Controlled Materials Plan, latest in a long list of programs to control distribution of critical materials to industry, has just been announced by the WPB. It will go into effect in the second quarter of 1943, and will become fully operative on July 1, 1943. The distribution method to be adopted is in effect "vertical allotment." The new plan will gradually replace the present priorities system. An intensive program of education is planned by WPB to familiarize manufacturers who will be affected with details of the new CMP.

Revoke PR 10 Symbols

The identifying symbols which all users of critical materials have been required to use on purchase orders, set up originally as a part of the Allocation Classification System imposed by Priorities Regulation No. 10, have just been revoked by the WPB. No longer will the raw material buyer be required to mark on each order identifying symbols such as D. P. 17:10, etc.

Wrisley Remembers Service Men

The Allen B. Wrisley Co., Chicago, is sending Christmas gifts to all former employees now in the armed services. Each Wrisley service man will receive a check and a new 1942 men's set of toilet supplies. Supplementing this company gift, individual departments have also remembered their former members with Christmas presents.

Packaging Institute Elects

The Packaging Institute held its annual session on November 5 and 6 at the Hotel New Yorker, New York, at which time officers were elected for the coming year. Among those re-elected were Joel Y. Lund, Lambert Pharmacal Co., president; A. Vernon Shannon, Westfield River Paper Co., and Wallace D. Kimball, Standard-Knapp Corp., vice-presidents.

Soap Assn. Exhibit

The Association of American Soap & Glycerine Producers, Inc. had a glycerine booth at the National Chemical Exposition, Sherman Hotel, Chicago, November 24 to 29.

BIDS AND AWARDS

Soap Dispenser Award

Moore Bros. Co., New York, were awarded the contract for 200 wall liquid soap dispensers, at $1, in a recent opening of the New York Navy Purchasing Office, New York.

Low Bid on Scouring Compound

In a recent opening by the New York Navy Purchasing Office, New York, for miscellaneous supplies, Chemical Mfg. & Distributing Co., Easton, Pa., submitted the low bid of 2.88c on 25,000 lbs. of scouring compound.

Navy Ammonia Bid

Sunlight Chemical Corp. submitted the low bid of 13c on 10,000 lbs. of aqua ammonia in a recent opening by the Washington Navy Yard, Washington, D. C.

Penick Low on Derris

S. B. Penick & Co., New York, submitted low bids of $76.68, $111.75, $74.80 and $38.34 on four items of derris powder in a recent opening of the Agricultural Department Division of Purchases, Washington, D. C.

Navy Soap Award

Swift & Co. was awarded the contract for 100,000 cakes of soap, packed 500 2-oz. cakes to the case, at $6.35, in a recent opening by the New York Navy Purchasing Office, New York.

Low Post Office Bid

Synthetic Lacquer & Varnish Co., Philadelphia, submitted the low bid on 6,000 gallons of cleaner and renovater, at 62c, in a recent opening by the Post Office Department, Washington, D. C.

Low Soap Bids

The following low bids were submitted in a recent opening by the District Government Supply, Washington, D. C., for miscellaneous supplies: Galmlen Chemical Co., Pittsburgh, 150,000 lbs. of salt-water soap, at $16,500; Pioneer Soap Co., San Francisco, 2,500 lbs. grit soap, at $200; Swift & Co., Chicago, 3,750 lbs. toilet soap, at $415; Armour & Co., Chicago, 37,500 lbs. laundry soap, at $2,362.50; Stevens Soap Corp., Brooklyn, 50,000 lbs. soap powder, at $1,810.

Low Navy Solvent Bid

San-Equipment, Syracuse, N. Y., submitted the low bid of $4,100 on 50,000 lbs. san. solvent in a recent opening for miscellaneous supplies by the New York Navy Purchasing Office, New York.

Fuld Low on Auto Soap

In a recent opening by the Post Office Department, Washington, D. C., for miscellaneous supplies, Fuld Brothers, Baltimore, submitted low bids for four automobile soap items, at 6.5c, 5.5c, 4.8c and 4.5c.

Cole Low On Soap Bid

In a recent opening by the New York Navy Purchasing Office, New York, for miscellaneous supplies, Cole Laboratories, Long Island City, New York, submitted the low bid of 37.9c for 15,000 gallons of liquid soap.

Panama Canal Low Bids

The following low bids were submitted in a recent opening by the Panama Canal, Washington, D. C., for miscellaneous supplies: Texas Co., New York, 5,000 gallons dry-cleaning solvent at 14.7; Zophar Mills, Brooklyn, 2,000 pounds oil tank cleaning compound at $146.

Veteran Supply Bids

The following low bids were submitted in a recent opening by the Veterans Administration Procurement Division, Washington, D. C., for miscellaneous supplies: Huntington Laboratories, Huntington, Indiana, soap dispensers, item No. 1, $70; item 2, $17.50; Harley Soap Co., Philadelphia, 75,000 lbs. green soap, $7,350.

N. Y. Navy Floor Wax Bid

Twin City Shellac Co., Brooklyn, submitted the low bid on 1,500 gallons of water emulsion floor wax at 60 cents, including a 10 cent can, in a recent opening by the N. Y. Navy Purchasing Office.

Govt. Men See Oil Film

The U. S. Department of Commerce was host to a group of Department representatives, war agency and government bureau officials recently in a showing of colored moving pictures of essential oil production in the Western Hemisphere. Dr. Ernest S. Guenther, chief research chemist of Fritzsche Bros., Inc., essential oil dealers, New York, took the pictures and was the principal speaker at their showing. Lester A. Barber, chief of the Merchandise staff, Consumption Goods Materials Unit of the Division of Industrial Economy of the Department, introduced Dr. Guenther. Mr. Barber said the reason for the showing of the films was to call attention to the increasing importance of the essential oil industry in the United States. The government is interested in developing American sources of these essential oils, according to Mr. Barber.

Curran War Products Lab

Curran Corp., manufacturers of cleaning compounds, Malden, Mass., have just opened a new war products development laboratory located in the Processing Plant, Prospect Mills, Lawrence, Mass. The purpose of the laboratory is to put its chemists on the development of "offensive" and "defensive" war chemicals.

Nocon Products Moves

Nocon Products Corp., formerly of 480 Lexington Ave., New York, manufacturers of degreasing materials, are now located at 30 Broad St., New York.

NEW TRADE MARKS

The following trade-marks were published in the November issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

Trade Marks

BRYLSHAVE—This in bold long hand letters to describe a shaving cream. Filed by The County Perfumery Co., Bloomfield, N. J., August 10, 1942. Claims use since July 9, 1942.

KLEFIN—This is letters formed by leaf-like members that run across a rod with a ball tip. All in a white oval within a rectangle. It describes a furniture, automobile or floor polisher and cleaner. Filed by Roy Elwood Roth, doing business as Nufin Co., Lancaster, Pa., July 7, 1942. Claims use since August 5, 1941.

A fanciful white figure in a bowling pose on a large black disc for a bowling alley wax or polish. Filed by Brunswick-Balke-Collender Co., Chicago, May 29, 1942. Claims use since May 1, 1936.

DIP-ETTES—This in bold hyphenated script letters to describe a preparation for washing stockings, undergarments, sweaters, etc. Filed by Dixie White Products Co., Memphis, March 28, 1942. Claims use since Jan. 2, 1942.

VITA-RINSE—This in two hyphenated words in bold script to describe a rinsing and washing powder. Filed by Midwest Consultants, Inc., St. Louis, August 27, 1942. Claims use since August 11, 1942.

VANCO—This in bold block letters on fanciful scroll design to describe paste hand soap and powdered hand soap. Filed by Mione Mfg. Co., Collingdale, Pa., September 17, 1942. Claims use since December 4, 1906.

SKETOFAX—This in block letters to describe an insectifuge to prevent the attacks of mosquitoes, sandflies, gnats, etc. Filed by Burroughs Wellcome & Co., New York, August 26, 1942. Claims use since December 1, 1920.

OCCO—This in block letters to describe chemical compounds and preparations used in cleaning and polishing metals, etc. Filed by Onyx Chemical Corp., Jersey City, N. J., August 21, 1942. Claims use since November, 1939.

16-to-1—This is numerals and script letters to describe a liquid and paste cleaner for wood, metal, concrete, masonry and plaster. Filed by C. A. Nash & Son, Norfolk, Virginia, September 23, 1942. Claims use since 1938.

INTERLOCKING "c's", one printed backwards the other forward, within a black ring for a toilet soap. Filed by Chanel, Inc., New York, September 25, 1942. Claims use since 1925.

MERFENEL A—This in block letters to describe a germicide for control of pulp and paper mill slimes. Filed by Hamilton Laboratories, Inc., Hamilton, Ohio, September 21, 1942. Claims use since July 21, 1942.

A. R. Z.—This in large striped letters with the letters and word A. R. Zander printed across the marks to describe a preparation for the treatment of athlete's foot. Filed by Zander & Scott Laboratories, Chicago, August 29, 1942. Claims use since July 23, 1942.

CUTOLE—This is bold letters to describe a disinfectant for use as an aid in the prevention of dermatitis. Filed by West Disinfecting Co., Long Island City, New York, September 4, 1942. Claims use since March, 1929.

ONCE OVER—This in old English Gothic letters to describe semi-liquid cleaner for floors, walls, etc. Filed by Anthony Di Frances, Milwaukee, April 18, 1942. Claims use since March 29, 1942.

CURRIER & IVES—This in two words to describe soaps. Filed by J. B. Williams Co., Glastonbury, Conn., May 29, 1942. Claims use since April 17, 1942.

SOLE PROOF—This in form of stencil, for liquid leather dressing. Filed by Roswell C. Barbour, doing business as the Barbour Co., St. Louis, July 8, 1942. Claims use since July, 1939.

B & D NEW IMPROVED HOME CLEANER—This in four lines, beneath which the letters "b" and "d" are interlocked and set within an octangular border for a cleaner of woodwork, painted walls, floors, tiles and similar uses. Filed by B & D Products Co., Columbus, Ohio, August 14, 1942. Claims use since February 23, 1942.

RETS OF FOOT AID—This in two lines at the top of and inside a rectangular figure for athlete's foot preparations. Filed by Foster Laboratories, Lansing, Michigan, September 24, 1942. Claims use since September 4, 1942.

Trade Marks Granted

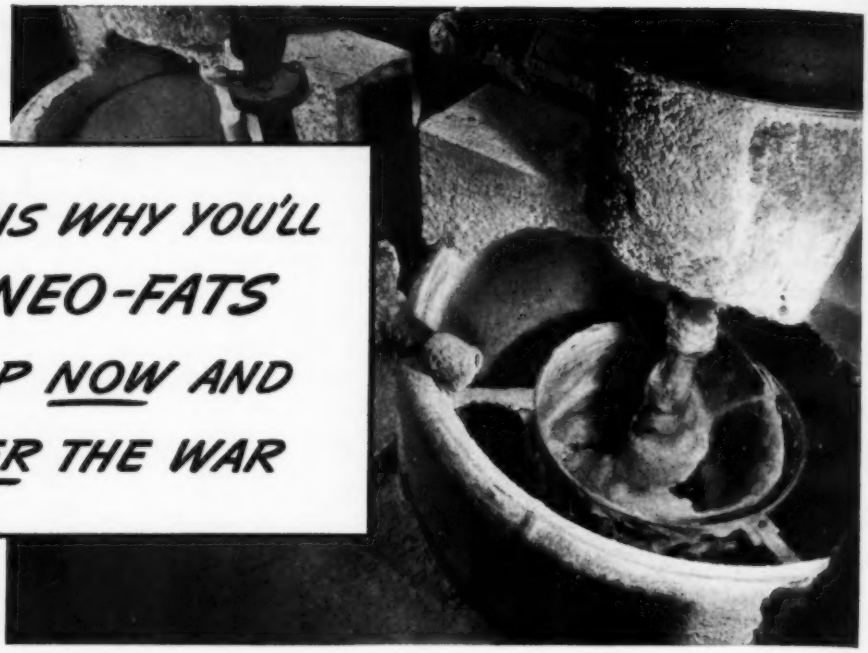
398,510. Cleansing Soap. Filed by Eugenie Marchado, New York, May 19, 1942. Serial No. 453,259. Published August 18, 1942. Class 4.

398,532. Vermifuge for treating screw worms. Filed by C. H. Harnage, Perry, Florida, June 23, 1942. Serial No. 453,826. Published August 25, 1942. Class 6.

398,597. Cleaning powders, pastes, fluids and soap. Filed by Kelite Products, Inc., Los Angeles, March 17, 1942. Serial No. 451,681. Published June 2, 1942. Class 4.

398,520. Cleansing compound for cleaning dishes, crockery, glassware, cooking utensils, silverware and the like. Filed by Richmond, Oil, Soap and Chemical Co., Inc., Philadelphia, June 11, 1942. Serial No. 453,603. Published August 25, 1942. Class 4.

398,479. Shaving cream (Brushless), shaving cream (Mentholated) and for lather shaving cream. Filed by Goldsmith Brothers, New York, April



5 REASONS WHY YOU'LL PREFER NEO-FATS FOR SOAP NOW AND AFTER THE WAR

1. FASTER SAPONIFICATION!

With NEO-FATS saponification is at least twice as fast as with neutral fats, thus enabling your *present* kettles to turn out double your present volume of soap in the same length of time.

2. GREATER YIELD!

You will get a consistently higher yield of anhydrous soap per pound of fat base using NEO-FATS than with whole fats.

3. BETTER QUALITY SOAP!

NEO-FATS give you a better finished, more neutral soap because saponification is complete and there is less possibility of turbidity. What's more, NEO-FATS' uniform high quality is assured by Armour's rigid chemical control of every production step.

4. ECONOMICAL!

As NEO-FATS double your production capacity — your equipment cost, labor and other overhead costs remain almost constant. And there is no waste when NEO-FATS are on the job because they are 100% usable.

5. GLYCERINE-FREE!

When you use NEO-FATS, you don't need extra facilities to recover glycerine (now being conserved for vital war requirements, as desired by WPB).

★ See proof of NEO-FATS' 5 big advantages in your own plant. Check NEO-FATS listed below for the type you need and wire or write Armour for samples, together with complete information.

These NEO-FATS are specially prepared for soap manufacturers

Neo-Fat No. 3 (Mixed Oleic-Linoleic Acids)
Double Distilled Corn Oil Fatty Acids
Double Distilled Cottonseed Fatty Acids
Double Distilled Soybean Fatty Acids
Double Distilled Linseed Fatty Acids
Double Distilled Palm Oil Fatty Acids
Double Distilled Animal Fatty Acids

NEO-FAT U.S. REGISTERED TRADEMARK

ARMOUR AND COMPANY

Neo-Fat Division

1355 WEST 31ST STREET • CHICAGO, ILLINOIS

18, 1941. Serial No. 442,703. Published July 8, 1941. Class 4.

398,622. Fabric cleaning compounds. Filed by The Pennsylvania Salt Manufacturing Co., Philadelphia, June 13, 1942. Serial No. 453,641. Published September 1, 1942. Class 4.

398,730. Antiseptics. Filed by The Pepsodent Co., Chicago, July 11, 1942. Serial No. 451,177. Published September 1, 1942. Class 6.

398,731. Dentifrices. Filed by The Pepsodent Co., Chicago, July 11, 1942. Serial No. 454,178. Published September 1, 1942. Class 6.

398,754. Hair rinse. Filed by Irresistible, Inc., Jersey City, N. J., April 26, 1940. Serial No. 431,253. Published September 15, 1942. Class 6.

Senior Made Master Sergeant

Master Sergeant Bob Senior, son of the late Charles Senior, and a

former member of the sales staff of Florasynth Laboratories, Bronx, N. Y., has just returned from duty on convoy shipping to southern continents. Sergeant Senior originally enlisted in the 7th Regiment, New York, and after training received a rating as Machine Gun Corporal. He was assigned to duty aboard vessels convoying materials to American bases abroad. He was subsequently made Gun Captain, First Sergeant, and recently Master Sergeant.

Revise Soap Prices (*Continued from Page* 43)

BATH SIZE				
Lux Toilet	50	Bath size	4.275	4.32
Camay	100	Bath size	8.924	9.02
Camay	50	Bath size	4.491	4.54
Palmolive	100	Bath size	8.56	8.65
Palmolive	50	Bath size	4.31	4.35
GUEST SIZE				
Lifebuoy	144	Guest Size	5.40	5.45
Lifebuoy	72	Guest size	2.70	2.73
Ivory	144	Guest size	5.82	5.88
Ivory	72	Guest size	2.959	2.99
BAR LAUNDRY SOAPS				
P & G White Laundry or P & G The White Naphtha	100	Large	$4.074	$4.11
P & G White Laundry or P & G The White Naphtha	100	Regular	3.492	3.53
American Family Soap	80	Regular	3.977	4.02
Crystal White Family Soap	80	Large	3.25	3.28
Crystal White Family Soap	100	Regular	3.49	3.53
Kirkman's Borax	100	Regular	4.250	4.29
Octagon	100	Large	4.12	4.16
Octagon	120	Small	2.76	2.79
Fels Naptha	100	Regular	4.45	4.49
WASHING POWDERS				
GIANT				
Gold Dust	12	36 oz.	$1.750	$1.77
Star	12	39 oz.	1.601	1.62
Grandma's	12	39 oz.	1.601	1.62
Octagon	20	40 oz.	2.72	2.75
Kirkman's	12	40 oz.	1.850	1.87
LARGE				
Gold Dust	60	10 oz.	2.45	2.47
O. K.	60	14½ oz.	2.28	2.30
Octagon	60	14 oz.	2.33	2.35
Kirkman's	50	12 oz.	2.10	2.12
REGULAR				
Gold Dust	100	6½ oz.	2.60	2.63
O. K.	120	7¼ oz.	2.28	2.30
Star	100	8¾ oz.	2.474	2.50
Grandma's	100	8¾ oz.	2.474	2.50
Octagon	120	7 oz.	2.76	2.79

SCOURING CLEANSERS

Brand name	*Pack*	*Weight (per item)*	*B Price per case*	*A Price per case*
Gold Dust	24	14 oz.	$1.050	$1.06
Old Dutch Cleanser	48	14 oz.	3.05	3.08
Kitchen Klenzer	40	13 oz.	2.00	2.02
Kirkman's	48	14 oz.	1.92	1.94
Crystal White	48	13 oz.	1.79	1.81

Soap Industry Outlook

(*From Page* 31)

Striking a more optimistic note, there is the possibility that the current United Nations campaign in Africa might loosen up stocks of palm and palm kernel oils which have stagnated in producing areas up to the present. With French Africa opened up, American ships that make the eastward trip loaded with materials of war might bring needed soapmaking materials back on the trip home. Even if no substantial quantities should come to the United States,—going to Great Britain instead, they would still act as an addition to the United Nations fat pool, and would have the effect of increasing our domestic stocks by reducing the need for fat exports from the United States. It is thought that American stocks of palm oil, for instance, are at a high level—a three to four years' supply was the figure given us—as a pool to take care of needs of the tin plate industry. With the African situation looking better, perhaps some of this pool might be released for soap makers' current needs.

What has the soap maker's reaction been to the threatened oil and fat shortage? In some cases, we understand, allocation of buyers has already started. There have been several soap buying waves over the past few years, each of which has petered out as buyers found there was still plenty of soap available. There is nothing of course to fear in the immediate future, as dealers' stocks are still believed to be heavy enough to provide a buying cushion for three to six months. Before another year is out, however, there seems to be a definite prospect that some sort of controls over soap sales may become necessary.

RAW MATERIAL MARKETS

As of December 1, 1942

THE general tenor of the market for the past month has been quiet. Price changes have been isolated, with sellers hesitant to make offers at ceiling prices and buyers reluctant to do more than place light orders. What prices changes there were were, for the most part, slightly downward.

Good news from the war fronts had its effect on the market too. In November, for the first time in many months, traders began to look forward to the future with something more than the customary pessimism. Our successes in Africa, as well as those in the Far East, stimulated speculation as to the possibilities of raw material sources of supply being opened up in those areas. This was especially apparent in the case of fats and oils and aromatic chemicals from Africa. The lack of shipping space is of course a barrier to an immediate heavy increase in vegetable oils. However, allied control of important African producing areas makes the long term outlook distinctly more optimistic. Occupation of Reunion is particularly important in the essential oil picture, as the island is an important source of geranium, vetiver and ylang ylang.

Good news on the agricultural home front during the month prompted high hopes as to what next year will bring in the way of additions to our fat and oil supplies. There is apparently substantial reason for optimism. The figures show that domestic oil and fat production for the current year will climb to 10,400,000,000 pounds. This is a ten per cent increase over 1941. In a recent speech, Secretary of Agriculture Wickard asked that this figure be even bettered through increased soybean, cottonseed, and corn acreage.

On the other side of the picture, the tallow situation is rather tight. In some cases, tallow was reported as being unavailable to buyers. The local meat shortage, increased demands by the Army and closer trimming of the meat are factors contributing to tallow shortages. The fact that much meat is being sent out of the country to our troops all over the world must be considered.

A bright spot for the soaper is the report that soda ash and caustic soda are in good supply and that prices for 1943 are unchanged. The recent demand for these two items is reported to have been rather light.

An easing in the supply situation on carbon tetrachloride has been noted, the natural result being that dry cleaners who were forced for a time to use substitutes are now going back to it.

Essential oils and aromatic chemicals toward the latter part of the month were in light demand, with better supplies, and consequent price reductions. A shortage of supply in redistilled cassia was reported. Nevertheless the price of cassia and several other oils fell to a point lower than when dealers had more substantial stocks. U.S.P. Cedarleaf climbed to a $1.15 to $1.35 price range. The technical grade was off slightly at 75c to $1.10. Cedarwood was offered at 65c in some quarters and 85c in others. Ceylon Citronella was reported lowered from $1.20 to $1.40 to $1.10 per pound. Another essential oil item of note is Palmarosa. It is reported scarce; the price having risen to a $5.50 minimum.

News notes of the month in brief are: contemplated U. S. purchase of 4,500,000 lbs. of South American rotenone, and roll back and specific dollar and cents price levels set for waxes.

OPA Lowers Wax Prices

Rolling back prices for industrial waxes, the OPA has set specific dollars and cents ceilings for imported vegetable waxes, produced mainly in Brazil and northern Mexico, and for domestic and imported beeswax. This in effect sets prices at levels prevailing in October, 1941. The new ceilings which were effective November 13, are contained in Maximum Price Regulation No. 264 (Industrial Waxes). They apply to importers, shippers and all other sellers. On imported waxes, the ceilings apply to shipments which have entered the country since August 20, 1942.

Further Restrict Phenols

Delivery, use and acceptance of delivery of tar acid oil, carbolates, phenols or substituted phenols, except as specifically authorized by the Director General of Operations, after December 1, 1942, is prohibited under terms of general preference order M-27, as amended Nov. 3, 1942. From Nov. 3-30 no one was permitted to deliver or accept delivery of any phenols except in accordance with provisions of M-27 as in effect prior to this amendment. In order to obtain any of the banned materials it is necessary to fill in form PD-600 stating the quantity needed and the purpose to which it would be put.

WPB Chemical Exchange Plan

Through the medium of an informal exchange to bring together war producers and holders of idle stocks of chemicals, supplies of more than 100 different kinds of these vitally needed war materials have been made available for war production. This exchange plan has been set up by a New York City regional WPB office under the direction of H. M. Brundage.

RAW MATERIAL PRICES

(As of December 1, 1942)

Minimum Prices are for car lots and large quantities. Price range represents variation in quotations from different suppliers and for varying quantities.

Chemicals

Acetone, C. P., drums	lb.	$ .08½	$ .09
Acid, Boric, bbls., 99½%	ton	109.00	131.00
Cresylic, drums	gal.	.81	.83
Low boiling grade	gal.	.81	.83
Muriatic, C. P., carboys	lb.	.06½	—
Oxalic, bbls.	lb.	11¼	.12½
Adeps Lanae, hydrous, drums	lb.	.29	.32
Anhydrous, drums	lb.	.30	.33
Alcohol, Ethyl, drums	gal.	11.92	12.05½
Complete Denat., SD1, dms., ex.	gal.	.65	.70
Alum. Potash lump, bbls.	lb.	.04½	—
Ammonia Water, 26°, drums	lb.	.02¼	.02½
Ammonium Carbonate, tech., drums	lb.	.08¼	.09¼
Bentonite	ton	25.00	51.00
Bleaching Powder, drums	100 lb.	2.25	3.35
Borax, pd., bbls., bags	ton	50.00	76.00
Carbon Tetrachloride, car lots	gal.	.73	1.17
L. C. L.	gal.	.80	1.27
Cresol, U.S.P., drums	lb.	.10¾	.11¼
Cresote Oil	gal.	.141	.15½
Feldspar, works	ton	30.00	35.00
Formaldehyde, bbls.	lb.	.05½	.06
Fullers Earth	ton	8.50	15.00
Glycerine, C.P., drums	lb.	.18¾	.19¼
Dynamite, drums	lb.	.18¼	.18¾
Saponification, drums	lb.	.12¾	.14¾
Soap lye, drums	lb.	.11½	—
Lime, live, bbls.	ton	6.25	14.50
Mercury Bichloride, drums	lb.	2.24	2.39
Naphthalene, ref. flakes, bbls.	lb.	.08	—
Orthodichlorbenzene	lb.	.06	.08½
Paradichlorbenzene, drums	lb.	.11	.15
Petrolatum, bbls. (as to color)	lb.	.03⅜	.07¼
Phenol (Carbolic Acid) drums	lb.	.12¼	.13¼
Pine Oil, drums	gal.	.55	—
Potash, Caustic, solid	lb.	.06¼	.06½
Flake, 88-92%	lb.	.07	.07½
Liquid, 45% basis	lb.	.03¼	.03½
Potassium Carbonate, solid	lb.	.06¼	.06¾
Liquid	lb.	.03	.03½
Pumice Stone, coarse	lb.	.04¼	.05
Rosins (net. wt., ex dock, New York)—			
Grade D to H	100 lb.	3.95	4.08
Grade I to N	100 lb.	4.05	4.12
Grade WG to X	100 lb.	4.30	4.40
Rotten Stone, dom., bags	lb.	.0128	.019
Silica	ton	20.00	27.00
Soaps—			
Tallow Chip, 88%	lb.	.10¼	.10⅞
Powder, 92%	lb.	.10⅝	.11¼
Powdered, White Neutral	lb.	.25½	.42
Olive Oil Paste	lb.	.40	—
Shampoo Base	lb.	.18	.20
Liquid Concentrate, 30-32%	gal.	.75	.79
Soda Ash, cont., wks., bags, bbls.	100 lb.	1.05	1.45
Car lots, in bulk	100 lb.	.90	—
Soda Caustic, cont., wks., solid	100 lb.	2.30	—
Flake	100 lb.	2.70	2.95
Liquid, tanks, 47-49%	100 lb.	1.92½	1.95
Soda Sal., bbls.	100 lb.	1.20	1.40
Sodium Chloride (Salt)	ton	14.20	18.00
Sodium Fluoride, bbls.	lb.	.08	.09¼
Sodium Hydrosulfite, bbls.	lb.	.17	.18
Sodium Metasilicate, anhyd.	100 lb.	4.00	5.30
Granulated	100 lb.	2.50	3.55
Sodium Pyrophosphate	100 lb.	5.28	6.80
Sodium Silicate, 40 deg., drum	100 lb.	.80	1.20
Drums, 52 deg. wks	100 lb.	1.40	1.80
Tar Acid Oils, 15-25%	gal.	.27½	.33½
Triethanolamine	lb.	.18	.20
Trisodium Phosphate, bags, bbls.	100 lb.	2.70	4.15

Oils — Fats — Greases

Babassu, tanks, futures	lb.	.1110	Nom.
Castor, No. 1, bbls.	lb.	.15¼	.16
No. 3, bbls.	lb.	.13¾	.14¼
Coconut (without excise tax)			
Manila, tanks, N. Y.	lb.	No Prices	
Tanks, Pacific Coast, futures	lb.	No Prices	
Copra, bulk, coast	lb.	No Prices	
Corn, tanks, West	lb.	.12¾	.15½
Cottonseed, crude, tanks, mill	lb.	.12¾	—
PSY, futures	lb.	.13⅞	.14⅛
Fatty Acids—			
Corn Oil, tanks, Chicago	lb.	.14½	.15
Coconut Oil, tanks, Twitchell, Chi.	lb.	.18½	.19
Cotton Oil, tanks, Chicago	lb.	.14	.14½
Settled soap stock, Chicago	lb.	.03⅞	.04
Boiled soap stock, 65%, Chi.	lb.	.04⅞	.05
Foots, 50%, Chicago	lb.	.03½	.03¾
Castor Oil, split, tanks, N. Y.	lb.	.20¾	.21¼
Linseed Oil, split, tanks, N. Y.	lb.	.18½	—
Distilled	lb.	.21	.21½
Myristic acid, distilled, tanks, N.Y.	lb.	.19	.19½
Palm Oil, white tanks, N. Y.	lb.	No Prices	
Single distilled	lb.	No Prices	
Soybean Oil, split, tanks, N. Y.	lb.	.10	—
Distilled	lb.	.15	—
Red Oils, bbls., dist. or sapon	lb.	.11⅞	—
Tanks	lb.	.11¼	—
Stearic Acid, saponif.			
Double pressed	lb.	.14	—
Triple pressed	lb.	.17	—
Greases, choice white, tanks	lb.	.08¾	—
Yellow	lb.	.08¼	—
Lard, city, tubs	lb.	.138	—
Linseed, raw, bbl.	lb.	.1310	.1330
Tanks, raw	lb.	.1220	.1240
Olive, denatured, bbls., N. Y.	gal.	3.50	4.00
Foots, bbls., N. Y.	lb.	.19	Nom.
Palm, Sumatra, cif. New York, tanks	lb.	No Prices	
African, tanks, ex. ship	lb.	.08¼	Nom.
Palm, kernel	lb.	No Prices	
Peanut, crude, tanks, mill	lb.	.13	Nom.
Soya Bean, domestic, tanks, crude	lb.	.12¼	Nom.
Stearin, oleo, bbls.	lb.	.1054	—
Tallow, special, f.o.b. N. Y.	lb.	.08½	—
City, ex. loose, f.o.b. N. Y.	lb.	.08⅝	—
Teaseed Oil, crude	lb.	No Prices	

(As of December 1, 1942)

Essential Oils

Almond, Bitter, Artificial	lb.	$3.50	$3.75
Bitter, F.F.P.A.	lb.	4.75	5.00
Sweet, cans	lb.	1.90	2.00
Anise, cans, U.S.P.	lb.	3.10	3.50
Bay, 55-66% phenols, cans	lb.	1.60	2.10
Bergamot, coppers	lb.	32.00	Nom.
Artificial	lb.	2.25	6.50
Birch Tar, rect., cans	lb.	—	—
Crude, cans	lb.	—	—
Bois de Rose, Brazilian	lb.	4.75	5.00
Cayenne	lb.	—	—
Cade (juniper tar), drums	lb.	1.50	Nom.
Cajeput, tech., drums	lb.	—	2.10
Calamus, cans	lb.	—	—
Camphor, Sassy, drums	lb.	—	—
White, drums	lb.	—	—
Cananga, native, cans	lb.	17.00	17.50
Rectified, cans	lb.	18.25	20.00
Cassia, Redistilled, U.S.P.	lb.	10.50	12.00
Cedar Leaf, cans	lb.	1.05	1.35
Cedar Wood, light, drums	lb.	.75	1.00
Citronella, Java, drums	lb.	—	—
Citronella, Ceylon, drums	lb.	1.20	1.40
Clove, U.S.P., cans	lb.	1.80	2.00
Eucalyptus, Austl., U.S.P., cans	lb.	1.05	1.30
Fennel, sweet, cans	lb.	3.60	—
Geranium, African, cans	lb.	30.00	Nom.
Bourbon, cans	lb.	24.00	—
Turkish (Palmarosa)	lb.	5.25	5.50
Hemlock, cans	lb.	1.20	1.25
Lavender, 30-32% ester, cans	lb.	—	—
Spike, Spanish, cans	lb.	4.25	4.35
Lemon, Ital., U.S.P.	lb.	—	Nom.
Cal.	lb.	3.00	—
Lemongrass, native, cans	lb.	2.75	3.25
Linaloe, Mex., cases	lb.	4.25	—
Nutmeg, U.S.P., cans	lb.	4.75	6.00
Orange, Sweet, W. Ind., cans	lb.	6.00	6.25
Italian cop	lb.	8.00	Nom.
Distilled	lb.	1.00	—
California, expressed	lb.	1.90	—
Origanum, cans, tech.	lb.	2.75	2.90
Patchouli	lb.	8.00	8.50
Pennyroyal, dom.	lb.	—	—
Imported	lb.	3.15	3.25
Peppermint, nat., cans	lb.	5.50	5.75
Redis., U.S.P., cans	lb.	6.00	6.25
Petitgrain, S. A., cans	lb.	1.95	2.20
Pine Needle, Siberian	lb.	3.00	3.25
Rosemary, Spanish, cans	lb.	2.25	2.30
drums	lb.	2.10	2.15
Sandalwood, dom., dist., U.S.P.	lb.	6.50	7.00
Sassafras, U.S.P.	lb.	2.00	2.20
Artificial, drums	lb.	2.00	—
Spearmint, U.S.P.	lb.	—	3.15
Thyme, red, N. F.	lb.	3.25	3.50
White, N. F.	lb.	3.50	3.75
Vetiver, Java	lb.	42.00	50.00
Ylang Ylang, Bourbon	lb.	—	—

Aromatic Chemicals

Aceotphenone, C. P.	lb.	$1.55	$1.60
Amyl Cinnamic Aldehyde	lb.	—	—
Anethol	lb.	2.25	2.40
Benzaldehyde, tech.	lb.	.45	.55
N. F. VI	lb.	.85	2.75
Benzyl, Acetate	lb.	.59	Nom.
Alcohol	lb.	.63	.75
Citral	lb.	5.50	7.00
Citronellal	lb.	2.75	3.25
Citronellol	lb.	7.00	7.25
Citronellyl Acetate	lb.	—	—
Coumarin	lb.	2.75	3.25
Diphenyl oxide	lb.	.43	.50
Eucalyptol, U.S.P.	lb.	2.25	2.65
Eugenol, U.S.P.	lb.	2.75	2.80
Geraniol, Soap	lb.	1.10	1.50
Other grades	lb.	1.50	3.50
Geranyl Acetate	lb.	—	—
Heliotropin	lb.	5.25	Nom.
Hydroxycitronellal	lb.	7.25	8.75
Indol, C. P.	lb.	28.00	30.00
Ionone	lb.	2.75	3.95
Isoborneol	lb.	.81	.90
Iso-bornyl acetate	lb.	.80	.95
Iso-Eugenol	lb.	—	—
Linolool	lb.	6.75	7.00
Linalyl Acetate	lb.	5.50	7.25
Menthol, natural	lb.	—	—
Synthetic, U.S.P.	lb.	—	—
Methyl Aceophenone	lb.	—	—
Anthranilate	lb.	2.20	2.35
Paracresol	lb.	—	—
Salicylate, U.S.P.	lb.	.35	.40
Musk Ambrette	lb.	4.00	4.45
Ketone	lb.	4.15	4.60
Xylol	lb.	1.40	1.80
Phenylacetaldehyde	lb.	5.00	6.00
Phenylacetic Acid	lb.	1.85	1.90
Phenylethyl Alcohol	lb.	2.10	2.50
Rhodinol	lb.	—	—
Safrol	lb.	2.25	2.45
Terpineol, C.P., dra.	lb.	.40	—
Cans	lb.	.43	—
Terpinyl Acetate, 25 lb. cans	lb.	.87	—
Thymol, U.S.P.	lb.	3.00	Nom.
Vanillin, U.S.P.	lb.	2.35	2.75
Yara Yara	lb.	1.80	1.85

Insecticide Materials

Insect Powder, bbls.	lb.	.29	.30
Pyrethrum Extract			
20 to 1	gal.	5.90	6.00
30 to 1	gal.	8.85	9.00
Derris, powder—4%	lb.	.31	—
Derris, powder—5%	lb.	.35	—
Cube, powder—4%	lb.	.31	—
Cube, powder—5%	lb.	.35	—
Squill, red, dried	lb.	.85	1.00

Waxes

Bees, white	lb.	.57	.63
African, bgs.	lb.	.3750	—
Refined, yel.	lb.	.5250	.6050
Candelilla, bgs. (crude)	lb.	.38	—
Carnauba, No. 1, yellow	lb.	.8325	.8925
No. 2, N. C.	lb.	.7575	.8175
No. 3, Chalky	lb.	.7125	.7725
Ceresin, yellow	lb.	.13½	.18
Montan Wax, bags	lb.	.45	.46
Paraffin, ref., 125-130	lb.	.0520	.0560

PRODUCTION SECTION

A section of SOAP devoted to the technology of oils, fats, and soaps published prior to Jan. 1, 1932, as a separate magazine under the title, Oil & Fat Industries.

Rosin Replacement of Coconut

CRUDE tall oil contains an average of some 40 per cent of resin, 55 per cent of fatty acids, and 10 per cent of inert unsaponifiable matter. The resin acids in tall oil consist of abietic acid and isomers of this acid. When refined, the resin or resin acids isolated from tall oil are substantially similar in physical and chemical properties to refined gum or wood rosin. The chief difference is that the tall-oil resin has a higher melting point. Fatty acids in tall oil consist of oleic, linoleic, linolenic and some palmitic acids. Linoleic is usually present in a larger quantity than the other unsaturated acids.

Comparison of sodium rosinate with the soaps of individual fatty acids indicates that sodium rosinate resembles sodium laurate more than the soaps of the other fatty acids. In view of the similarity of sodium laurate and sodium rosinate, it appears that rosin might be used to replace part of the coconut oil used in many soap products. Rosin soap should be looked on as a material that has to be blended with other soaps. Proper blending of rosin soap with fatty-acid soaps will yield quality products. In general, the addition of sodium rosinate to a fatty-acid soap increases the solubility of the soap, softens the soap to some extent, increases the lathering properties of difficultly soluble soaps, and of course affects the color. Light yellow soap flakes, as well as light yellow bar soap can be made containing as much as 20 per cent of rosin. If the rosin is properly stabilized, either catalytically or by hydrogenation, it contributes little or no color to soap products.

In hard-water sections, a tallow soap containing only 5 per cent coconut oil would not produce a good lather. Addition of rosin helps increase solubility in hard water and to give a better and quicker lather. The lather of a toilet soap of this kind containing rosin is not as profuse as that of the regular soaps with a higher percentage of coconut oil, but in an emergency it does help where the coconut oil must be cut down. The rosin also acts as a stabilizer. Such a soap rarely develops rancidity if properly made.

Soaps of this kind can be produced in 150,000 pound batches or more, and complete saponification can be obtained within 2-3 hours with unsaponifiable matter practically nil and with free alkali not in excess of 0.04 per cent. Where W.W. rosin is used and properly processed, the resulting soap will be white, not snow-white but with no more of a yellowish tint than soap made from unbleached tallow.

Provided a good grade of rosin is used it may be added directly in broken-up lumps,—but usually it is advisable to saponify the rosin separately in a smaller pan, wash the soap, and then pump the rosin soap into the main soap pan. Soda ash may be used for saponification with saving in alkali cost. Complete initial saponification of the rosin is not essential, but it should be grained out with salt and settled for a short while, before being pumped over. The complete saponification of unneutralized rosin is effected after it has been added to the main soap batch. Builders which increase the alkalinity of rosin soap increase the detergent action.

The following notes on tall-oil soaps are from German sources by way of neutral countries. To prepare potash paste soap from tall oil, 8 parts of caustic potash are heated to boiling in 10 parts of water, and 20 parts of tall oil are added in small portions. The soap prepared in this way is very viscous. When one dips a hand into the soap solution a definite stickiness is noticeable. This soap is claimed to be particularly suitable for incorporation in polishing materials. Viscosity is reduced by introduction of potassium chloride, or by use of linseed-oil fatty acids and soybean-oil fatty acids with the tall oil.

To prepare curd soap, 50 parts of hard fat, 20 parts of tall oil, 20 parts of coconut-oil fatty acids, and 10 parts of peanut-oil fatty acids are

used. Saponification is with caustic soda, the soap being salted out. This gives a light brown soap of good lathering power and detergency, but with a tall-oil odor. By the addition of 2 per cent of soap bleach to the soap mass, a light yellow, odorless soap can be obtained. Up to 25 per cent of tall-oil can be used in the production of an unobjectionable household soap. Toilet soap has been prepared from a stock of 53.7 per cent of hard fat, 29 tallow, 5.2 rosin, and 12.1 per cent of purified tall-oil. *Perfumery & Essen. Oil Record* 33, 260-2 (1942).

Metal Degreasing Method

Metal is degreased by first wetting the surface with a grease-solvent solution of a soap-forming substance such as tall oil, then treating with an aqueous solution of saponifying agent such as a dilute solution of alkali. In this way soap is formed in situ on the surface where it serves as emulsifying agent. The metal is then rinsed with water to remove the solvent and greasy film. Atton. F. Curran, to The Curran Corp. Canadian Patent No. 408,242.

Solid-soap Dispenser

In a dispensing apparatus for soap, a solid block of soap is housed and guided against a rotatable element. The latter engages the block and removes a surface portion from it in a finely divided state for individual use. Gordon D. Voorhis, to Voorhis-Tiebout Co., Inc. Canadian Patent No. 408,293.

Alcohols from Fatty Acids

Higher aliphatic unsaturated alcohols are prepared from higher unsaturated aliphatic acids by subjecting the latter to the action of 5-20 per cent of a mixed catalyst in the presence of hydrogen at about 280°C. and 200 atmospheres' pressure. The catalyst contains copper and cadmium precipitated on a carrier, the cadmium being present in a proportion of 15-55 per cent of the copper. G. van Schuckmann, to Bohme Fettchemie G.m.b.H. Canadian Patent No. 408,048.

Soap Crystals

Photomicrographs show crystals of sodium and potassium stearates to be lamellar needles. Such crystals can be obtained in good yield from solutions of soap in certain mixed solvents. S. R. Palit. Current Sci. 11, 13-14 (1942); through Brit. Chem. Abs.

Soybean Oil Quality

A photometric procedure is described for the determination of the quality of solvent-extracted soybean oil by estimation of acetone-insoluble material and break. The method is rapid, possesses an average precision of about 0.005 break per cent, and is relatively free of errors introduced by differences in technique. A direct empirical relation has been found between acetone-insoluble material and break in solvent-extracted soybean oils. Chas. A. Murray and E. B. Oberg. *Ind. Eng. Chem., Anal. Ed.* 14, 785-7 (1942).

Diffusion of Soaps

The relation of concentration to the diffusion coefficient of potassium soaps of caprylic, capric and lauric acids was determined. A constant region in the curves indicates the formation of micelles. With an increase in the length of the carbon chain, micelle formation takes place in lower concentrations. It is affected by the addition of salt. The region of transformation for laurate in a salt-free medium is approximately 0.025 Normal. In the presence of 0.1 Normal potassium hydroxide and 1 Normal potassium chloride, the formation of the micelles for the laurate is complete at 0.005 Normal. O. Lamm. *Kolloid Z.* 98, 45-52 (1942); through Chem. Abs.

Spanish Grapeseed Oil

Following Italy's example in her study of grapeseed oil as an oil source for the paint, soap and other industries, Spanish investigators report that rather wide variations exist in constants on oil from one variety of Spanish grape to another. The following figures were considered fairly typical: specific gravity at 20°C. 0.9318, iodine value 122.2, saponification value 196.5, and acid value 106.2. These relate to the dark green oil isolated from seed with a yield of 8 per cent by extraction with ethyl ether, petroleum ether, or carbon bisulfate. The free fatty acids, prepared from the same oil by saponification with alcoholic soda and treatment with sulfuric acid, had specific gravity 0.9194, iodine value 97.7 and melting point 24°C. *Chem. Age* 47, 318 (1942).

Sulfonated Oils

To increase the sulfur trioxide content and stability, a sulfonated material such as castor oil, cottonseed oil, corn oil, tallow etc., is subjected to extraction with an organic, water-miscible solvent such as acetone, methanol or ethyl alcohol. B. A. Dombrow, to National Oil Products Co. U. S. Patent No. 2,280,118.

Detergent Effect on Fabrics

Cotton cellulose, regenerated-cellulose rayon, cellulose-acetate rayon, silk, wild silk and wool were subjected to 50 washings under controlled conditions with neutral olive-oil soap, a silicated soap, and a sulfated alcohol. Washing silk in sulfated alcohol solution resulted in a loss of 86 per cent of its wet strength during 50 washings. Only 30 per cent loss occurred when the silk was washed 50 times in hard water with a solution of 0.2 per cent aromatic sulfonate (4 per cent organic sulfur and 60 per cent sodium sulfate). In contrast to the behavior of silk,—wool lost only 11 per cent of its wet strength during 50 washings with sulfated alcohol, as compared with 20 per cent loss with soap or with silicated soap.

While silicated soap is more destructive to wild silk than is plain soap, it is no more degrading than soap itself to cotton cellulose, regenerated-cellulose rayon, cellulose-acetate rayon, silk and wool. The evidence obtained supports the use of silicated soap as a textile detergent. Florence B. Castonguay, Dorothy O. Leekley and Rachel Edgar. *Am. Dyestuff Reporter* 31, 421-6 (1942).

A SIGN *of Strength*

Slowly, it seems to anxious eyes, but in reality more swiftly than her enemies ever thought possible, America is gathering her strength to strike. And as she moves forward into the world struggle, the qualities that have made her great become more and more apparent. Her vast natural resources, her disciplined efficiency, her tremendous energy and confidence born of freedom—these are the things that will make her as successful in war as she has been in peace.

To Americans, Niagara has always been a sign of this strength, epitomizing in its great Falls the resources, the energy and the freedom in which we take pride. In its beauty, too, the beauty of the American ideal is symbolized. It is one of the many unique natural wonders that express the active and potential power of a free people whose progress is derived from the exercise of their own abilities in a land of opportunities.

We who work within sight and sound of Niagara Falls are devoting every ounce of our energies and facilities to speeding the flow of chemicals for Victory.

CAUSTIC POTASH · CAUSTIC SODA
PARA · CARBONATE OF POTASH
LIQUID CHLORINE

FROM THE ORIGINAL BY DAVID FREDENTHAL . . . IN NIAGARA ALKALI COMPANY'S COLLECTION OF PAINTINGS OF NIAGARA FALLS

Niagara ALKALI COMPANY
60 EAST 42nd STREET, NEW YORK, N. Y.

An Essential Part Of America's Great Chemical Enterprise

Fatty Acid Process

Fatty acids and concentrated glycerine are produced by a method which involves hydrolyzing fats and oils under superatmospheric pressure and at an elevated temperature. Fatty acids containing some dissolved water, and a glycerine-water solution are removed separately from the hydrolyzing chamber. A portion of the heat in the fatty acid-water mixture is utilized to generate steam under pressure for preheating the oil or fat before its introduction into the hydrolyzing chamber. A portion of the steam is used to produce a vacuum. The glycerine-water solution is flashed to evaporate some of the water as steam under pressure. Evaporation of water from the concentrated glycerine solution is further assisted by reducing the pressure below atmospheric. Warren Davey and Martin H. Ittner to Colgate-Palmolive-Peet Co. U. S. Patent No. 2,281,534.

T.N.T. Washing Formula

In a large shell-filling plant in Canada, clean smocks and overalls are supplied to the men and women, in some cases daily, and in some three times a week. This is because the explosive T.N.T. gets on the clothing and, if it comes in contact with the skin for any great length of time, causes a rash.

Removal of the gunpowder from the workers' clothing is therefore the prime purpose of the laundry attached to the plant, and washing formulas and operations function with that objective in view. After juggling the formula until every trace of explosive was removed from the washed clothing, the following was eventually arrived at for a 36 in. x 72 in. washer.

Hard water only is available at present. Most striking in the departure from accepted commercial practice is the high temperature of the break. Another unusual feature is that 15 operations are necessary,—another that the formula requires one hour and 40 minutes. *Laundry & Dry Cleaning J. of Canada* 22, No. 7, 9, 16-17 (1942).

Opening Caustic Drums

The Royal Society for the Prevention of Accidents recommends the following method for opening drums of caustic soda. Lay the drum on its side, placing wedges under it to prevent its rolling. Pierce the side near one end and cut along to the other end of the drum with a chisel. Insert the ends of two crowbars into the slit on opposite sides of the drum and push at right angles to the length of the drum. The sheet of metal which forms the sides of the drum is thus opened out. This is done until the side of the drum is stripped away from the contents. The contents can then be rolled out whole. *Chem. Trade J. & Chem. Engineer* 111, 230 (1942).

Fatty Oil Refining

Crude vegetable and animal oils are mixed with an alkali in an amount sufficient to neutralize the oil and form soap stock. The latter is separated. The oil is stabilized and its color improved by a fine dispersion of an aqueous alkaline solution in the oil. The mixture is then subjected to vacuum evaporation to effect concentration of the dispersed alkaline solution, after which impurities are removed from the oil. Francis B. Lachle, to Sharples Corp. U. S. Patent No. 2,281,884.

No.	*Operation*	*Water*	*Time in minutes*
1	Break	Hot (170-212° F.)	10
2	Rinse	"	3
3	"	"	3
4	"	"	3
5	Break	"	Boil 10
6	Rinse	"	3
7	"	"	3
8	"	"	3
9	Break	"	Boil 10
10	Rinse	"	3
11	Suds	" (No steam. 2 qts. 2% bleach)	10
12	Rinse	"	
13	"	"	
14	"	"	
15		Cold (4 oz. 56% acetic acid)	

Evaluation of Metal Cleaning

Practically any alkali cleans most of the oil from a metal, but unless a quantitative evaluation of the residual oil can be made, the true value of the metal cleaner is left as a matter for conjecture. A performance test involving the cleaning of uniformly soiled metal samples and the observation of the residual traces of oil appeared to be the best method of studying metal cleaners. Since mineral oil fluoresces brightly under ultraviolet light and this fluorescence is capable of being photographed, a convenient means is provided for detecting and recording oil residues on metal surfaces both before and after cleaning.

If a metal surface carries only a small amount of oil by weight but the oil is concentrated into a relatively small area, a good deal of damage can be done to any superficial coating that may be applied. The new testing technique developed for the evaluation of the performance of metal-cleaning compounds, not only aids in selecting the proper types of cleaning compounds for specific cleaning jobs, but also establishes new criteria for a clean metal surface, thereby raising the standard for the technology of metal cleaning. O. M. Morgan and J. G. Lankler. *Ind. Eng. Chem.*, Anal. Ed. 14, 725-6 (1942).

pH of Laundry Sour

It has been shown that in a souring operation in which the pH is lowered to 4.5-5 any bacteria present on the goods are killed. Since the souring operation can be carried out on woolens as well as cottons, this gives a method of producing a sterile load at either high or low temperatures. The substitution of souring for that of sterilizing with Chloramine T gives a load that is just as sterile and enables this to be done with materials which are still readily available. The effectiveness of mildly acid solutions in killing bacteria is far less at pH 5-6. than at 4.5-5. Every effort should therefore be made to ensure the pH of the sour bath within the proper range. Jack Penson. *Laundry & Dry Cleaning J. of Canada* 22, No. 9, 8, 20 (1942).

Dry Cleaning Gloves

TO clean colored leather gloves, place a peck of maple-wood balls 1¼ inch in diameter in an open mesh bag 30 x 30 inches in size. Add sufficient gloves to fill the bag loosely and tie. Place the bags in a dry-cleaning wheel not more than 30 inches in diameter. Fill the cylinder of about 1/6 the diameter with clean kerosene-naphtha liquid in which 1 pound of ordinary benzine soap has been dissolved. Clean for 15 minutes and drain. Rinse for 5 minutes in kerosene-naphtha solvent. Extract for 3 minutes. Inflate each glove and evaporate the solvent in a rotating cylinder by circulating warm air not over 110°F. through. When dry, the gloves are ready for finishing.

Metal forms which can be heated are needed. The following finishing process is applicable to all colored smooth or dressed gloves. Prepare a heavy solution of neutral low-titre soap, using green soap or soft paste soap in a sufficient quantity of soft water to form a slimy mass. Apply a heavy lather from this soap solution with a soft sponge and allow it to dry at ordinary temperatures. When the gloves are dry they can be stretched slightly and rubbed down with a soft clean cloth to finish.

Suede gloves can be satisfactorily finished after dry-cleaning and drying, by rubbing down with a piece of sponge rubber. This is done while they are on the form. If they are somewhat dead looking, or slightly faded, they can be revived to some degree by sponging very lightly with a 1:4 solution of sulfonated castor oil in water. This solution can be sponged or sprayed on. It should be allowed to dry at ordinary temperatures before the gloves are rubbed down with a rubber sponge or fine brush.

If gloves seem too dry after dry-cleaning, this condition should correct itself if the gloves are allowed to remain in the open air or in a room at ordinary temperatures from 1-4 hours, depending on the humidity of the air. Leland G. Stockdale. *Laundry & Dry Cleaning J. of Canada* 22, No. 9, 8, 18 (1942).

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Continuous Soap Process

Fats heated to 400-620°F. are mixed with a solution containing more than 50 per cent of alkali, itself heated to 200-500°F. This mixture is heated further until reaction is complete, when the mixture is discharged into a vapor-separating zone at a temperature above the melting point of the anhydrous soap. The glycerine vapors are withdrawn and condensed at a rate sufficient to maintain a vacuum in the zone. Soap is continuously removed without breaking the vacuum. B. H. Thurman, to Refining, Inc. U. S. Patent No. 2,283,776.

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Natural Antioxidants

Cottonseed and soybean oils and mixed hydrogenated vegetable fats contain alkali-labile antioxygenic substances other than the tocopherols. The chemical behavior of these fat antioxidants showed that they are similar to, if not identical with, the chroman-5, 6-quinones and occur in fresh vegetable fats in a colorless, possibly quinol form. Their isolation and concentration were accomplished by chromatographic adsorption and the use of selective solvents. Calvin Golumbic. *J. Am. Chem. Soc.* 64, 2337-40 (1942).

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Acid Metal Cleaner

A cleaning and coating composition for ferrous metals contains 2-10 per cent of a 75 per cent solution of orthophosphoric acid, 2-10 per cent of acetone, 0.3-1 per cent of a 25 per cent solution of the sodium salt of a secondary alcohol sulfate, and the balance water. Howard R. Neilson. Canadian Patent No. 408,340.

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Tall Oil Nomenclature

The confusion existing with regard to the names of the various products obtained in the refining of sulfate soap prompted the Central Bureau of Technical Nomenclature (of Sweden) to obtain opinions of experts as to suitable terms. The following are suggested: Sulfate soap, the crude product; tall oil, the acidified soap; tall resin oil, the first liquid on distillation; tall resin acid, the solid fraction of distillation products; tall resinate, the salts and esters of the tall resin acid; tall fatty acid, the liquid distillation product; tall oleate, the salts and esters of the fatty acids; tall pitch, residual pitch; and tall soap, the potassium and sodium salts of the tall fatty acid. Nils Avelius. *Svensk Papperstidn.* 44, 203-5 (1942); through Chem. Abs.

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Fat-splitting Agents

An organic compound having a halogen-substituted aliphatic carboxylic radical containing at least 8 carbon atoms, such as a mono-chlorinated derivative of palmitic or stearic acid, is heated with an alkaline material such as soda ash, to a temperature not lower than its melting point but not above the decomposition temperature. The products are stable unsaturated aliphatic acids and derivatives suitable for the production of fat-splitting and wetting agents. E. E. Dreger, J. Ross and H. G. Kirschenbauer to Colgate-Palmolive-Peet Co. U. S. Patent No. 2,279,734.

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Sumac Oil

The berries of the smooth sumac (*Rhus glabra L.*) were macerated and extracted with carbon tetrachloride under a water layer. The carbon tetrachloride layer was separated and the solvent evaporated on a water bath. A dark brown, viscous oil, amounting to 10 per cent of the weight of the berries, was obtained. This was dissolved in petroleum ether and decolorized with carbon. Four lots of oil had n_D^{20} — 1.588-1.5020, d_{20}^{20} — 0.9072-0.9814, acid number 1.98-2.75, saponification number 192-200, and iodine number 40.1-85.0. H. B. Huddle. *J. Tenn. Acad. Sci.* 17, 231-2 (1942); through Chem. Abs.

PRODUCTS AND PROCESSES

Brushless Shave Creams

Brushless shaving creams, of special interest now because they require no coconut oil, are closely related to vanishing creams. Their effectiveness is said to be due to their ability to support the hair in such a position that it will be upright in the path of the razor blade. A basic formula calls for 20-30 per cent of stearic acid, 1 per cent of caustic potash, 1 of cetyl alcohol, lanolin or other emollient, and 5 per cent of glycerine or other hygroscopic agent, the balance water. The ingredients are stirred until emulsification takes place and a homogeneous mass results, and is allowed to stand overnight. It is again stirred to break up the mass formed and give a soft cream. J. Kalish. *Drug & Cosmetic Ind.* 51, 398-9 (1942).

Synthetic Washing Compound

A higher aliphatic sulfonated amide is used with tetrasodium pyrophosphate,—to give a slippery feel to the solution in concentrations used,—and with an acid salt such as an acid sulfate, to give the solution of the composition a pH of not over 7. An alkyl tauride of a higher fatty acid or similar derivatives may also be used. L. F. Henderson and B. L. Maxwell, to Lever Bros. Co. U. S. Patent No. 2,279,314.

Lauryl Sulfate Replacement

A proprietary product marketed as *Teepol* (formerly sold as Shellestrol[1]) should be suitable to replace triethanolamine lauryl sulfate. The material is a 20-25 per cent aqueous solution of the sodium salt of a sulfated secondary alcohol or mixture of alcohols obtained by cracking petroleum. Apparently the sodium salts of products of this type are more readily soluble in water than the corresponding product derived from primary alcohols.

Aqueous solutions of Teepol foam in a satisfactory manner and exercise a strong degreasing action,—so strong that the manufacturers recommend addition of a suitable fatty material to shampoos based on the product. Glycerine, for reasons not fully understood, mitigates the strong degreasing action. Investigation is now proceeding to determine whether glycerine substitutes on the market are equally suitable for the purpose. *Perfumery & Essen. Oil Record* 33, 227 (1942).

[1] Made by Technical Products, Ltd., Shellhaven, England.

Chlorinated Detergent

A detergent product may be prepared by chlorinating a petroleum distillate such as one from Pennsylvania petroleum in which at least 80 per cent boils at 210-65°C. to produce a mixture of alkyl chlorides. The latter are condensed with an aromatic hydrocarbon of the benzene series to produce a mixture of alkyl derivatives of the hydrocarbon. This mixture is sulfonated. Lawrence H. Flett, to Allied Chemical & Dye Corp. U. S. Patent No. 2,283,199.

Phosphate Dairy Detergents

The commercially significant members of the phosphates range from sodium pyrophosphate to sodium metaphosphate. An intermediate member of the series, pentasodium tripolyphosphate, exists in two stable crystalline forms. These materials are used in conditioning water. They prevent the precipitation of calcium and magnesium from alkaline solution. In general, the calcium-sequestering efficiency increases as the P_2O_5 content increases. With respect to the magnesium ion, the situation is somewhat reversed, but the relative difference between the phosphates is less marked.

Mixtures of these types of phosphates with compatible alkaline salts yield satisfactory detergents and are especially effective in eliminating milk stone and scale formation. The use of a few parts per million of these phosphates in municipal waters which is circulated to dairy equipment (the so-called threshold treatment) prevents corrosion to the extent of 90 per cent, and has a stabilizing effect on dissolved iron, thereby practically eliminating "red water." Such threshold treatment also operates to reduce scale formation in refrigeration condensers, coolers and heat-transfer units. Charles T. Roland. *Milk Plant Monthly* 31, No. 6, 38, 45-6 (1942); through Chem. Abs.

Sulfonated Dispersing Agents

Capillary-active materials are produced by a method which involves hydrogenating a compound having an aromatic nucleus with an attached nonaromatic hydrocarbon radical containing at least three carbon atoms and a hydroxyl radical, such as heptyl *ortho*-cresol ketone. A hydropile radical is introduced by replacement of the hydroxyl radical, as by sulfating. S. Hentrich, C. A. Lainau and W. J. Kaiser, to the Procter & Gamble Co. U. S. Patent No. 2,283,437.

"Automatic" Laundry Detergent

A new "automatic" detergent designed to relieve laundry detail work in the first operation, is produced by the Beach Soap Co., Lawrence, Mass. as Prime Soaps. The product is a homogeneous mixture of special soap, "hydroxyl," and prepared solvent. It is intended to signal automatically the proper concentrations of soap and builder in the wheel when suds appear. The granular powder is used directly in the wheel. A liquid form contains the correct balance of soap and builder.

Neem Oil

The following fatty-acid composition of neem oil was found by using standard methods: palmitic 13.8 per cent, stearic 18.2, arachidic 1.8, oleic 52.6 and linoleic 13.6 per cent. C. J. Dasa Rao and T. R. Seshadri. *Proc. Indian Acad. Sci.* **15A**, 161-7 (1942); through Chem. Abs.

NEW PATENTS

Conducted by

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Complete copies of any patents or trade-mark registration reported below may be obtained by sending 25c for each copy desired to Lancaster, Allwine & Rommel. Any inquiries relating to Patent or Trade-Mark Law will also be freely answered by these attorneys.

No. 2,298,019, Shaving Cream, patented October 6, 1942 by Latimer D. Myers, Cincinnati, Ohio, assignor to Emery Industries, Inc., Cincinnati, Ohio. A shaving cream comprising approximately 45 per cent by weight of soap, 45 per cent by weight of water, and 10 per cent by weight of glycerin, the soap being a soap of the class consisting of sodium and potassium soaps and being made up of saponified stearic acid and saponified palmitic acid with 5 to 10 parts by weight of potassium soap being present in the soap component to each one part of sodium soap, and with 70 per cent of the soap being palmitic acid soap and 30 per cent being stearic acid soap.

No. 2,298,650, Detergent Composition, patented October 13, 1942 by Nicholas N. T. Samaras and Jay C. Harris, Dayton, Ohio, assignors to Monsanto Chemical Company, St. Louis, Mo. A non-caking, free-flowing particulate solid detergent composition having an apparent specific gravity of about 0.05 to 0.25 and a moisture content of about 1.0 to 5.0 per cent obtained by spray-drying an aqueous solution or homogeneous aqueous suspension, the solid constituents of which comprise a mixture of 35 to 65 parts by weight of sodium sulfate and 65 to 35 parts by weight of a water-soluble salt of a monoalkyl-substituted aromatic hydrocarbon sulfonic acid selected from the group consisting of water-soluble salts of monoalkyl-substituted benzene, toluene and xylene sulfonic acids, the substituted alkyl groups of which contain at least 11 and less than 16 carbon atoms, to each 100 parts by weight of the solid constituents.

No. 2,298,651, Solid Detergent, patented October 13, 1942 by Nicholas N. T. Samaras and Jay C. Harris, Dayton, Ohio, assignors to Monsanto Chemical Company, St. Louis, Mo. A non-caking, free-flowing particulate solid detergent composition having an apparent specific gravity of about 0.2 to 0.5 and a moisture content of about 1.0 to 5.0 per cent obtained by drum-drying an aqueous solution or homogeneous aqueous suspension, the solid constituents of which comprise a mixture of 35 to 65 parts by weight of sodium sulfate and 65 to 35 parts by weight of a water-soluble salt of a monoalkyl-substituted aromatic hydrocarbon sulfonic acid selected from the group consisting of water-soluble salts of monoalkyl-substituted benzene, toluene and xylene sulfonic acids, the substituted alkyl groups of which contain at least 11 and less than 16 carbon atoms, to each 100 parts by weight of the solid constituents.

No. 2,298,696, Detergent Composition, patented October 13, 1942 by Jay C. Harris, Dayton, Ohio, assignor to Monsanto Chemical Company, St. Louis, Mo. A detergent composition consisting of a mixture of the following substances in approximately the following proportions by weight per 100 parts by weight of the composition: (1) 35 to 65 parts of a substance selected from the group consisting of monoalkyl-substituted benzene, toluene and xylene sulfonic acids, the substituted alkyl groups of which contain at least 9 and less than 16 carbon atoms and alkali-metal salts thereof together with (2) a magnesium compound selected from the group consisting of magnesium sulfate and magnesium chloride in a proportion equal to approximately 3 per cent to 25 per cent of that amount required stoichiometrically to convert all the alkyl-substituted aromatic sulfonic acid compound in the composition to magnesium salt, and (3) anhydrous sodium sulfate in a proportion equal to 35 to 65 parts diminished by the amount of magnesium compound present.

No. 2,299,604, Fungicidal Composition, patented October 20, 1942 by Clarence L. Weirich, Westport, Conn., assignor, to the C. B. Dolge Company, Westport, Conn. A fungicidal composition comprising phenoxyacetic acid and a water soluble inorganic salt compatible in water solution with phenoxyacetic acid, the proportion of the salt in the composition greatly exceeding the proportion of phenoxyacetic acid in the composition, the salt enhancing the fungicidal properties of the phenoxyacetic acid when the composition is dissolved in water to form a solution containing at least 2½ per cent concentration of the salt based upon the weight of the solution.

Reissue **No. 22,213**, Recovery of Glycerol, patented October 27, 1942 by Robert Alan Walmesley, Howwood, Scotland, assignor to Imperial Chemical Industries, Limited, a corporation of Great Britain. A process for the recovery of glycerol from still residues which comprises the step of extracting the glycerol-containing liquor with a solvent selected from the group consisting of aniline, the toluidines, and quinoline, and recovering the dissolved glycerol by treating with cold water.

No. 2,299,756, Quaternary Ammonium Derivative, patented October 27, 1942 by Morris Katzman and Benjamin R. Harris, Chicago, Ill., assignors to the Emulsol Corporation, Chicago, Ill. A process of preparing surface modifying agents which comprises reacting a member selected from the group consisting of primary and secondary alcohol amines with a member selected from the group consisting of polycarboxylic acids and esters thereof with alcohols, whereby amides are produced, then introducing into the molecule of the amides a quaternary ammonium-polycarboxylic acid radical and a lipophile group containing at least six carbon atoms.

No. 2,299,958, Soap Apparatus, patented October 27, 1942 by Charles T. Walter, Chicago, Ill., assignor to Industrial Patents Corporation, Chicago, Ill. The method of drying material which comprises extruding the material in a continuous strand from a means travelling in a substantially elliptical path having two substantially straight portions joined by curved ends, separating the curved ends from the straight portions of the strand of the material and placing the straight portions of the strand of the material onto a moving conveyor transversely the path of movement of the conveyor.

Stearic Acid from Tall Oil

Tall oil is desulfurized as by use of compounds of heavy metals, and is hydrogenated to effect substantially complete saturation of the fatty acids present. Stearic acid is separated by fractional crystallization. Anthony F.

Oliver and Robert C. Palmer, to Newport Industries, Inc. U. S. Patent No. 2,280,842.

Silicate Detergents

Finely divided caustic soda is mixed in a proportion of about 10-75 per cent with a finely pulverized anhydrous alkali metal silicate. The mixture is gently agitated without the production of any substantial grinding or disintegrating action in the presence of a small amount of water sufficient to produce a moist, crumbly consistency but without any substantial solution of the anhydrous silicate. Composite granules of the mixture are formed which unite into a substantially dry, dust-free aggregate of the anhydrous silicate particles embedded in a matrix of the other material. Chester L. Baker, to Philadelphia Quartz Co. U. S. Patent No. 2,282,018.

Wool Scouring

Samples of wool were scoured in 0.5 per cent modified soda plus 0.1 per cent olive-oil soap solutions at temperatures varying from 80° F. to 180° F. in steps of 20°. Samples scoured at the higher temperatures exhibited smaller yields of clean wool than at the lower temperatures, had a lower grease content, but underwent greater damage. Samples scoured at 120° F. appeared best with regard to openness, while samples scoured at 140° F. appeared best with regard to color. Based on the various tests, it appears that the optimum temperature for the satisfactory scouring of wool for purposes of determination of shrinkage is 125° F. George C. Le Compte and Joseph W. Creely. *Am. Dyestuff Reporter* 31, 453-6 (1942).

Revamp Soap Dispenser Spec

The Federal Specification for Soap Dispensers (FF-D-396b) has recently been revised to permit white baked-enamel or white porcelain-enameled finishes for exposed metal parts as an emergency alternate for the chromium plated finish formerly specified.

Bleach Determination

Analytical methods are given for the determination of total available chlorine, hypochlorite, chlorite, chloride, chlorine dioxide, and acidity or alkalinity in bleach solutions containing sodium chlorite. The determination of total available chlorine by the use of thiosulfate,—and of hypochlorite if present, by arsenite-iodine, are all that are usually required for routine use. James F. White. *Am. Dyestuff Reporter* 31, 484-7 (1942).

A sulfonated alkyl-aryl condensation product is prepared by the reaction of concentrated sulfuric acid with a mixture of a phenol such as amyl phenol and an acid amide. The latter is prepared by treating fatty acids having 8-20 carbon atoms with an ethanolamine. Condensation and sulfonation are accomplished in one operation. Mark Weisberg, Louis Corman and Preston G. Slachman, to Alrose Chemical Co. U. S. Patent No. 2,277,805.

Activating Fuller's Earth

In activating Fuller's earth for the decolorization of vegetable oils by digestion with hydrochloric or sulfuric acid, the optimum concentration of acid is 5 Normal. Equally good results are obtained by heating the raw earth with about 20 per cent of concentrated sulfuric acid at 150°C. B. S. Kulkarni and S. K. K. Jatkar. *J. Indian Inst. Sci.* 23A, 227-35; through Chem. Abs.

To Identify Active Cations

Simple methods for identifying cation-active agents as distinguished from the anion-active type are the following: A 1 per cent solution of the agent is prepared and its pH determined with the glass electrode. The pH will generally be below 7. Four portions of the 1 per cent solution are tested in the following manner.

1. To one portion add about 1/5 its volume of Normal sodium hydroxide solution. An increase in turbidity is indicative of a cation-active compound. A decrease in turbidity may be due to saponification of dispersed fatty acid.

2. Treat a portion with 1/5 its volume of Normal hydrochloric or sulfuric acid. An increase in turbidity indicates an anion-active compound, while a decrease may be due to the neutralization of an organic nitrogen base.

3. Treat a portion with an equal volume of a 1 per cent solution of soap or sulfated alcohol (anion-active). An increase in turbidity indicates a cation-active compound.

4. Treat a portion with an equal volume of a 1 per cent solution of a fatty amine acetate (cation-active). An increase in turbidity indicates an anion-active compound.

The solutions are preferably allowed to stand overnight for turbidity development. Quantitative methods of analysis are given for cation-active agents. The per cent of nitrogen found by the Van Slyke method divided by the per cent nitrogen given by the Kjeldahl method represents the proportion of nitrogen present as primary amino nitrogen. Daniel Geltner and W. W. Razim. *Am. Dyestuff Reporter*, 31, 409-12 (1942).

Argentine Grape-seed Oil

The grape seeds contain moisture 7.76 per cent, ash 3.2 and crude oil 10.72 per cent. The oil is dark green and transparent with d_{15} 0.9254, freezing point —12° C., melting point of fatty acids 24° C., freezing point of fatty acids 19° C., saponification number 188, iodine number 125, and acidity 6.05. Oscar H. Blanco Gomez. *Anales asoc. quim. argentina* 30, 47 (1942); through Chem. Abs.

Interfacial Tension

The interfacial tension of oil and water is reduced by solutions of sodium soaps. The reduction increases with the number of double bonds in the fatty acid part of the soap. Sodium dibromoricinoleate is more surface active than sodium ricinoleate, and *alpha*-bromolaurate is more surface active than the laurate. The activity of sodium ricinoleate is equal to that of the oleate. Raymond Cavier. *Compt. rend.* 213, 71-1; through Chem. Abs.

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U.S.I. CHEMICAL NEWS

December ★ A Monthly Series for Chemists and Executives of the Solvents and Chemical Consuming Industries ★ 1942

Improved Synthetic Camphor Yield Seen With New Procedure

Ethanol Treatment of Bornyl Chloride Residues May Be Key

WEEKS, La.—What may be the key to higher yields of synthetic camphor is suggested in a recent patent granted to two inventors here.

The patent deals with a new technique for increasing the yield of bornyl chloride, and since this compound is an important intermediate in the production of synthetic camphor, the process described may be expected to have beneficial results in increasing the output of the latter material also.

Preparation of Bornyl Chloride

Bornyl chloride, the inventors point out, is prepared by saturating pinene with dry hydrogen chloride. An oily mixture is formed, from which the bornyl chloride is separated by crystallization. It has now been found, however, that substantial amounts of the bornyl chloride are not removed by the crystallization, and remain in the residue.

This additional material, the inventors claim, can be recovered by selective dehydro-

(*Continued on next page*)

Ether Called Best Wartime Anesthetic Of Inhalation Type

Among the existing anesthetics of the inhalation type, ether has definite advantages for use in combat areas, it has recently been reported. Factors contributing to the suitability of ether for wartime inhalation anesthesia include the ease with which it can be transported in small cans; the possibility of storing it for indefinite periods; ease and safety of administration by the open drop method; and the relatively lower danger of explosion as compared with other commonly used inhalation anesthetics.

Ease and safety of administration of ether are among the reasons why it has been characterized as the best anesthetic of the inhalation type for use in combat areas.

Offer Ointment Formula For Mustard Gas Burns

WASHINGTON, D. C.—An ointment suggested by the Office of Civilian Defense to relieve the pain and itching of mustard gas burns has the following proportions:

	Parts
Benzyl alcohol	50
Stearic acid	30
Glycerin	10
Ethyl alcohol	8
Pontocaine	1
Menthol	1

Copal Resins Dissolved By Aid of Nascent Oxygen

SUNDBYBERG, Sweden—Difficultly soluble fossil resins, particularly such members of the copal group as Zanzibar, Mozambique, and Congo resins, can be easily dissolved without previous melting by subjecting them to the action of nascent oxygen in the presence of an inert solvent.

This discovery has been made by an inventor here, who has received a U. S. patent on the method. In a typical procedure, the resin is finely divided and mixed with a small amount of manganese peroxide or vanadic acid, acting as a catalytic agent. Over the mixture is poured a suitable solvent: for example, ethanol, or a mixture of 50% ethanol, 40% benzol, and 10% acetone.

A mixture of hydrogen peroxide and nitric acid is then added. Nascent oxygen is released from the hydrogen peroxide, and reacts on the particles of the resin, which quickly dissolve in the solvent, it is claimed.

Say Tincture Preparation Time May Be Shortened

Possibility that the time for preparing tinctures of alkaloids may be shortened is suggested by the work of foreign investigators. According to reports of this work, a tincture of cinchona was first prepared by 10-day maceration with dilute alcohol. This tincture assayed 1.25% alkaloids. It was found that maceration with shaking, using 70% alcohol, yielded a tincture equal in potency to that prepared by the 10-day maceration.

This suggests that by a procedure of shaking and maceration, tincture of cinchona can be prepared in small quantities in a short period of time. It has not yet been determined whether the technique can be applied with equal success to other tinctures.

Describes Novel Method of Testing Greaseproof Paper

APPLETON, Wis.—A titanium pigment dispersed in ethanol plays a part in a new method for evaluating greaseproof paper, according to a patent issued to two inventors here.

The pigment is applied to one side of the paper and an oil dye to the other. If any of the oil dye penetrates the sheet, it will be absorbed into the pigment coating, producing a stain. The effectiveness of the greaseproofing is determined by comparing the appearance of the test sample, after a definite time, with a standard sample.

Lists Many Esters Helpful in Abating Foaming of Casein

Recent Research Throws Further Light on Most Effective Agents

NEWTON, Mass.—A new insight into ways of preventing foaming of casein paints and other protein compositions has been given as a result of research outlined in a patent recently granted to an inventor here.

According to the inventor's theory, foam formation and prevention in protein compositions are related to the action taking place at the interface between the protein composition, the air phase, and the film of anti-foaming material. It is suggested that the formation of the foam results from an increased concentration of the protein material at the interface. The surface tension of the water is thus lowered sufficiently to allow the formation of bubbles of foam.

Effect of Anti-foaming Agents

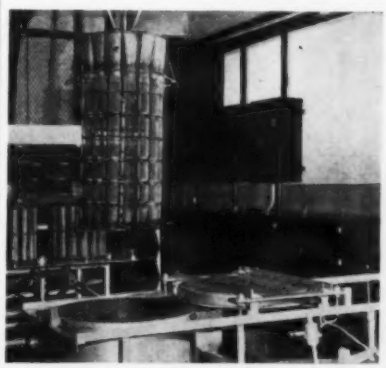
If an anti-foaming agent is present in an amount greater than is needed to saturate the protein film, the protein, according to this

(*Continued on next page*)

Alcohol Quench Prevents Aluminum Alloy Rivets From Sticking Together

Aluminum alloy rivets used in aircraft construction by The Glenn L. Martin Company are prevented from sticking together by immersing them in an alcohol quench tank.

The rivets are of the type which, immediately after heat treatment, are placed in refrigerated storage to keep them soft and workable until they are to be used. (U.S.I. CHEMICAL NEWS, September, 1941.) At the conclusion of the heat treatment, the rivets are first quenched in water, and then in alcohol at 0° F. or less. The alcohol quench aids in preventing the rivets from freezing together when they are later placed in cold storage.



Quench basket containing rivets is lowered into alcohol quench tank, which helps to prevent them from sticking together.

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December ★ **U.S.I. CHEMICAL NEWS** ★ 1942

Solvent Blend Addition Helps Prevent Clogging Of Oil Burning Systems

CHICAGO, Ill. — The clogging and fouling of domestic and commercial fuel oil burners can be prevented to a large extent by the addition of small amounts of a suitable solvent blend to the fuel oil.

This discovery is outlined in a recently issued patent assigned to a manufacturer here. In general terms, the solvent blend consists of: a compound boiling over 350° F. and having excellent gum solvent properties at elevated temperatures; and a compound boiling below 350° F. and having good gum solvent properties at ordinary temperatures.

A particularly effective solvent blend, it is indicated by the patent, consists of dibutyl phthalate and ethyl acetate. It is claimed that the addition of such a blend is helpful not only in preventing fouling of the oil burning system, but also in removing existing gummy deposits.

Dibutyl phthalate and ethyl acetate are produced by U.S.I.

Dibutyl Phthalate Nearest To Universal Plasticizer

Dibutyl phthalate represents the nearest approach to a universal plasticizer for grinding pigment pastes to be added to lacquers, it was suggested in a recently conducted question-and-answer forum on paint problems. The dibutyl phthalate absorption of pigments is approximately twice that of raw linseed oil.

Dibutyl phthalate is particularly suitable for grinding pigments for addition to nitrocellulose lacquers. For cellulose acetobutyrate lacquers, it is suggested that a mixture of dibutyl and dimethyl phthalates should prove most satisfactory.

Synthetic Camphor Yield

(Continued from preceding page)

chlorination of the residue in the presence of 95% ethanol. The ethanol serves as a common solvent for the components of the residue and for the dehydrochlorinating reagent.

The treatment, it is said, does not affect the bornyl chloride, but the other components of the residue become dehydrochlorinated, and can be separated from the bornyl chloride by distillation.

Recovery is reported to be as high as 25 to 35% by weight of the residue.

Revised Specifications For Road-Marking Paints

WASHINGTON, D. C. — New specifications have been issued for road-marking paints, to conform with regulations permitting the use of limited amounts of Batu and Congo Copal gums in paints of this character.

Under present regulations, up to one pound of Batu or two pounds of Congo can be used per gallon of road-marking paint. The revised specifications take into account this easing of restrictions on the use of natural resins.

U.S.I. will refer readers to a source from which the new specifications can be obtained.

Foam-Abating Agents

(Continued from preceding page)

theory, is either precipitated out of the solution, or is reduced in concentration so that it no longer lowers the surface tension of the water. Consequently, foam formation is abated.

It is obvious that the application of this theory to foam prevention requires the use of an agent exceeding that necessary to saturate the solution. This result can be obtained, the inventor claims, by means of esters which are soluble to only a limited extent in water, and which have a higher boiling point. When these esters are added to the protein compositions in amounts exceeding their solubility in water, at least a molecular layer of undissolved ester is always present between the surface of the protein solution and the adjacent surface of the air layer.

Suitable Esters

In this way, a permanent anti-foaming effect can be produced, according to the inventor. The patent lists a considerable number of esters which meet the necessary requirements. Among the U.S.I. products included in the list are:

- Amyl acetate
- Butyl acetate
- Butyl ethanedioate
- Dibutyl phthalate
- Diethyl carbonate
- Diethyl phthalate
- Ethyl acetate
- Ethyl ethanedioate

The use of these esters is expected to be effective in abating foam formation in casein and other protein compositions for such applications as paints, inks, and paper coating.

TECHNICAL DEVELOPMENTS

Further information on these items may be obtained by writing to U.S.I.

An abrasion-resistant plastic is described as transparent, insoluble in common solvents, 20 to 30 times as resistant to abrasion as most clear plastics. Maker says that it retains its shape when exposed to high atmospheric temperatures, can be formed into large sheets at low pressures. **(No. 640)**

U S I

A textile finishing agent is said to be useful in replacing sulfonated tallow. It is claimed that 100 pounds of the new agent will do the work of 140 pounds of sulfonated tallow, and that the cost compares favorably. **(No. 641)**

U S I

A paper fabric is suggested by the manufacturer as a substitute for cloth and burlap. It is said that the cellulose fibers are effectively interlocked and fastened, resulting in high inherent wet strength independent of any coating or sizing on the surface. **(No. 642)**

U S I

A sealing liquid is said to protect wood or concrete against attack or infiltration by oil and gasoline, and can also be applied as a protective coating on steel. According to the maker, it resists attack by many solvents and fatty acids. **(No. 643)**

U S I

A multiple-drum mixer will handle four 50-gallon drums and the same number of 5-gallon drums, rotating them at 30 RPM to mix their contents. **(No. 644)**

U S I

Temporary protection for metal parts in storage or transit is provided by a new liquid which dries to form a stable, non-adhesive film, according to the manufacturer. It is claimed that the film is unaffected by oil, grease, gasoline, water, alcohol, brine solutions, will not become brittle under sunlight, and that it peels off as a complete film. **(No. 645)**

U S I

A new Buechner filter is said to retain all the advantages of this type of funnel, with the added feature of physical stability. The entire unit is supported by a cylindrical base that rests firmly on the table, and the filtrate is drawn off through a vacuum connection at the bottom. **(No. 646)**

U S I

Low actinic glassware has been developed especially to meet the need for colored laboratory glassware affording high protective value to certain light-sensitive substances, it is reported. The protecting red color is described as an integral part of the glassware. **(No. 647)**

U S I

A polarizing film is said to require no scarce imported materials in its manufacture. It is also available in the form of laminated glass, and while material is used for war purposes, limited supplies are reported available for experimental purposes. **(No. 648)**

U S I

A form liner for concrete is said to contain no restricted materials, and to strip cleanly away from a finished concrete surface. It is reported to be cheap enough to discard after use. **(No. 649)**

EQUIPMENT AND BULLETINS

IF YOU want additional information on any of the items described below or if you want any of the bulletins, catalogs, etc., write to the MacNair-Dorland Co., Inc., 254 West 31st St., New York, mentioning the number of the item.

912—Lasting Paint Folders

Lasting Products Co., 200 S. Franklintown Road, Baltimore, Md., has a prepared folder dealing with paints for special wartime usage. Products covered include heat-repellent, low visibility paints for roofs, tanks, etc., black-out paints, adhesives for applying blackout papers, luminous paints, etc. The company makes a line of special industrial finishes including acid-resisting paint, floor seals, gym floor finishes, etc. Folders available by writing to the company.

913—Blackmer Pump Bulletin

Blackmer Pump Co., manufacturers of sanitary, rotary and hand pumps, and strainers, Grand Rapids, Mich., have just brought out Bulletin 115, which illustrates and describes the Blackmer line of Sanitary Pumps. In addition to the four-page folder showing pumps, motors and specification charts, the complete Blackmer catalog will be sent on request.

914—Finance Co. Soap Book

The research department of Household Finance Corp., Chicago, has just issued another in its series of booklets on "better buymanship." The latest, No. 16, deals with "Soap and Other Cleansing Agents." Topic headings and content of this 32-page consumer booklet include: a general outlook on the soap picture as it exists today, "How Does Soap Work?" "How Does the Kind of Water Affect Cleansing?" "How to Soften Water," "How Shall Soaps Be Selected?" " . . . Washing Fine Fabrics," "General Laundry and Household Soaps," "Other Cleansing Agents," "Bleaches, Bluing, Dry Cleaning Solvents and Spot Removers," charts of average water hardness by states in the U. S. and Canada, and a "Glossary of Principal Water Softners." Booklets available on request.

915—Fritzsche Oil Pamphlet

Copies of a listing of all important essential oils, compiled by Dr. Ernest S. Guenther and the research staff of Fritzsche Brothers, Inc., essential oil house, New York, are now available. Oils are arranged alphabetically, giving botany, origin and application of each, together with a supplementary list based upon the oil's geographical origins. Single copies are free and may be had by writing the company at 76 Ninth Avenue, New York.

916—Chemists' Directory

The Association of Consulting Chemists and Chemical Engineers, Inc., New York, recently completed its latest, seventh revised edition of the classified directory of the Association. The newest edition covers more material than previous ones and includes: excerpts from the by-laws and code of ethics of the Association; a list of the members and their firms, a geographical listing of members and the companies they represent; a scope sheet for each member and a key sheet type index.

Insecticide Spraying Equipment

"Spraying Equipment for Pest Control" is the title of a 42-page bulletin, No. 666, issued by the California Agricultural Experiment Station, Berkeley, Calif., in which O. C. French, the author, discusses sprayers and related equipment. Principles of portable and stationary spray devices, portable pipe lines, air atomizing sprayers and other devices are explained from the standpoint of their development, operating characteristics, comparative merits and limitations, effects of variation in modes of operation, etc.

New Solvay Dish Washer

Solvay Sales Corp., New York, has developed a new cleaner for dish washing which offers special advantages for machine use. A wetting agent utilized in the formula is said to break grease and oils into small particles and suspend them in the cleaning solution until rinsed away, so that no "after odors" remain, according to promotional literature. The product is being specially promoted for restaurant and institutional use.

Joins Fritzsche 25-Year Club

Hans P. Wesemann, vice-president and director of purchases of Fritzsche Brothers, Inc., essential oil house, New York, became the 18th member of the Fritzsche Quarter of a Century Club, at a luncheon in his honor, on November 23. F. H. Leonhardt, president of the company, paid tribute to Mr. Wesemann in a brief address. William A. R. Welcke, first vice-president and treasurer, and head of the club by virtue of his 57 years with Fritzsche Brothers, gave the new member a large war bond. Other gifts included a silver service from Fritzsche employees.

Castor Oil As a War Aid

Declaring that castor oil is much more important to the war effort than is coffee, J. Edmund Good, vice-president of Woburn Degreasing Co., of N. J., in an address before the National Farm Chemurgic Council's regional conference in Cincinnati, Ohio, Nov. 18, called for extensive plantings of castor beans in the United States as an industrial crop to supplement imports from Brazil. According to Mr. Good, "the Agricultural Department plans to foster the domestic growing of beans and has seed beans sufficient for 125,000 to 400,000 acres to be planted in 1943. The farmers need a new crop like the castor bean and industry needs the castor bean." In addition to its numerous civilian uses, Mr. Good pointed out many places where castor oil is indispensable to our war production effort.

Offer New Specification for Low-Titer Soap

A TENTATIVE draft of a proposed Federal specification for Soap; Low-Titer, dated November 12, 1942, has just been prepared by the Technical Committee on Detergents, appointed by the Federal Specifications Executive Committee. The specification is being offered for comments of soap manufacturers before being put into final form. Criticism and suggestions for change by interested parties may be addressed to F. W. Smither, chairman of the Technical Committee on Detergents, National Bureau of Standards, Washington, D. C. They must be forwarded at once to be given consideration.

Soap covered by the specification is to be of the blended type, and may be of either granular, powdered or flake class. It "shall be a thoroughly saponified soap made from a blend of oils such that the mixed fatty acids will have constants approximating the constants of the mixed fatty acids of olive oil, or olive oil foots. The soap shall be of a uniform color and texture, and shall be free from objectionable odor."

Detail requirements are prescribed in the following table:

	Maximum	*Minimum*
Moisture and matter volatile at 105°C. (per cent)	7.0	—
Sum of free alkali or free acid, total matter insoluble in alcohol, and sodium chloride (per cent)	4.0	—
Free alkali, calculated as sodium hydroxide (NaOH) (per cent)	0.2	—
Free acid, calculated as oleic acid (per cent)	0.2	—
Matter insoluble in water (per cent)	0.5	—
Anhydrous soap (per cent)	—	88.0
Rosin	none	—
Titer of the mixed fatty acid prepared from the soap	25°C.	—
Iodine number (Wijs) of the mixed fatty acids prepared from the soap	93	78
Acid number of the mixed fatty acids prepared from the soap	200	180
Residue retained on a No. 12 sieve (Class B only (per cent)	1.5	—

Suds Discusses Wages

In response to the frequently asked question, "How much do you pay," *Suds*, house organ of Allen B. Wrisley Co., Chicago, discussed this question in a recent issue. Since the question is one that is levelled at many employers in the soap and other fields today, the answers to the question as presented by *Suds* are felt to be of interest.

In general, preoccupation with rate of pay, says *Suds*, is only one of three attitudes prospective employees commonly take. Others, more experienced, are interested in "steady employment," while a third group wants to know about the chances for advancement. Breaking the thing down into its three logical parts, *Suds* first takes up the aspect of how much the Wrisley company pays. It is pointed out that since July, 1940, there have been three general wage increases; job classification rates gave most employees a raise; and a cost of living bonus of 5 per cent was paid.

As to the opportunities for advancement, says *Suds*, twice as many jobs in the last five years have meant twice the number of higher paying jobs; this has more than doubled the number of supervisory and foreman positions. On the "steady employment" theme, *Suds* points out that over 50 per cent of Wrisley employees who were with the firm five years ago are still employed today.

New Mildew proof Agent

Investigation of some of the more recently developed fungicidal and germicidal agents to determine whether any of them would meet present-day requirements for mildew-proofing compounds indicate that a 1:2000 aqueous dilution of phenyl mercuric acetate is an effective mildew-proofing agent for textiles.

A number of tests with this compound led to results and conclusions as follows: 1. Fabrics treated with a 1:2000 aqueous dilution of the agent meet or exceed U. S. Army Specifications T-1212 and T-1452. 2. Difficulty in removing the compound from fabrics by washing indicates a high degree of permanency for the treatment. 3. The feel, texture or nature of the treated fabrics is not effected. 4. The cost of treatment is small because of the low concentration of agent required. 5. Fabrics treated with the 1:2000 dilution of agent can be considered as non-toxic. The last point was confirmed by tests with both animals and humans.

Washing tests with treated osnaburg fabric showed that the fabric retains inhibitory values against *Staphylococcus aureus* and *Chaetomium globosom* to a high degree. Fabrics to be tested were treated by dipping in a 1:2000 aqueous solution of phenyl mercuric acetate until thoroughly wet, which took about one minute. They were then dried at room temperature and subjected to various experimental procedures. W. S. Marsh and A. E. Duske. *Textile World* 92, No. 8, 58-60 (1942).

Filtrol Corp. Expands

Filtrol Corp., Los Angeles, Calif., producers of decolorizing clays for the soap, oil, fat and glycerin industries, have moved their home office from 315 West Fifth Street to 634 South Spring Street, as of November 20. In announcing the change, Wright W. Gary, president of the corporation, explained that it was necessitated by the increased consumption of Filtrol products by the various industries. "In addition to helping processors of animal, vegetable, marine and mineral oils meet the increased demands made on them by the war effort and lend-lease, the facilities of our engineering and research staffs have been taxed to the limit by new products and expansion of plant facilities for war requirements," said Mr. Gary, "which made the acquisition of larger working space imperative."

Oil and Fat Outlook

(*From Page 35*)

part of the high lauric acid oils which have been frozen are needed for direct use in war production. But not to the extent the freezing orders indicate, say some market analysts. Domestic production of oils and fats in the United States for the 1942-43 period is up almost 20 per cent over the 1941-42 figures according to a recent statement of the U. S. Department of Agriculture, in setting the total around 12 billion pounds. It was the opinion of the department that this increase of some two billion pounds will be sufficient to offset increased exports for the United States under Lend-Lease, and will also cover the decrease in imports. It might also be added that reduction in soap output due to economic conditions and government limitations will also help to make the fats and oil supply more adequate.

In regard to the domestic oil situation, several interesting questions have arisen. First, apparently the easiest part of increasing the domestic oil supply is the agricultural end of it, — raising the crop on expanded acreage. The bottleneck, and there seems to be one at the moment, is in crushing facilities and storage tanks. When farmers see how easy it is to expand their acreage of these vegetable oil crops, it is not likely that they will want to reduce crops and consequent profits without any protest. The all-powerful farm lobby will have something to say. Therefore, after the war is over, and possibly before, we can look forward to a higher tariff on foreign oils and fats. Secondly, if in a year we can raise our production of cotton seed, soybean, peanut, etc., by two billion pounds in a year, there seems to be no reason why it cannot be increased next year by an equal amount all other things being equal.

No discussion of domestic oils would be complete without some attention to castor oil. This oil, much of which was formerly imported from South America in the bean and oil forms but which is difficult to obtain in quantities due to the critical lack of bottoms, has great possibilities. At two meetings of the Farm Chemurgic Council, one in the early summer and the other this month, the raising of larger crops of this bean in the United States was advocated. While castor oil is no replacement for coconut or other lauric acid oils, it is finding even increasing use in soap manufacture. Placing castor oil under allocation on September 25 was brought about by its scarcity through the ship shortage. Unbeknownst to many, this oil plays a versatile and indispensable role in the war production program, and has an important part in the production many items in our civilian economy as well. As such, its broader application in various phases of production might free other oils otherwise utilized that might go into the soap kettle.

THE outlook for fatty acids which are naturally a part of the general over-all fats and oil picture, is fairly good. The production of some fatty acids suffers as a result of the short condition in tallow, and earlier in the year received a stiff blow when our far eastern supply ground of coconut was lopped off. The shipping situation hurt, too, when it brought about crises in the case of palm, palm kernel and babassu oils from Asia and South America. On the other hand, these set-backs were materially offset when bumper crops of domestic vegetable oils were harvested and crushed. Subsequent government restrictions and regulations regarding fats, oils, glycerine, etc., have, for the most part, had a stimulating effect on the production of fatty acids.

The demand for fatty acids, from the smaller soaper especially, has grown considerably in the past year,— first, as a source of new raw materials to replace those traditional ones no longer available, or greatly reduced in supply and secondly out of sheer necessity when government regulations called for the reduction in use of all lauric acid oils with a content of 35 per cent or higher, unless the glycerine content had been removed. As was pointed out some months ago: "Here were rulings that directly affect(ed) the soap industry, and in particular, the numerous soap manufacturers who lack(ed) the equipment and facilities for extracting glycerine from their fats and oils." Fortunately, adequate fatty acid production facilities are at the soap maker's disposal.

All told, the outlook in any fatty acid will be chiefly a reflection of the outlook in the oil or fat from which it is derived. Scarcity of lauric acid and mixed coconut fatty acids will naturally continue as long as coconut oil is virtually unobtainable. The same is true of palm acids. Heavier consumption of soya bean fatty acids and specially processed acids based on bean oil is likely in view of heavy production of soya bean oil this year in the United States and the probability of a similar large crop in 1943.

As mentioned before, stearic acid and red oil may reflect the stringency in tallow and greases. In 1943, new types and combinations of fatty acids practically unheard of a few years ago, are likely to find their way to the soap kettle.

In general, the expectation is for a marked increase in the use of fatty acids by soap makers, especially smaller producers who lack the facilities to keep within the permitted glycerine limits when using whole oils. Also, the greater flexibility of fatty acids when used as replacements for coconut, palm and other scarce oils to produce certain types of products in the kettle, should encourage their wider use. There is a distinct possibility that many smaller soapers may be permanently weaned away from the use of whole oils by future circumstances growing out of the present situation in oil shortages and government regulation.

◆

McCann Chemical Co., 1022 W. Main Street, Louisville, Kentucky, janitor supply house, recently moved to 712 W. Jefferson St., Louisville.

◆

Tri-State Chemical Co., manufacturers of sanitary chemicals, Buffalo, N. Y. have moved from 311 Northland Ave. to 128 Grey St.


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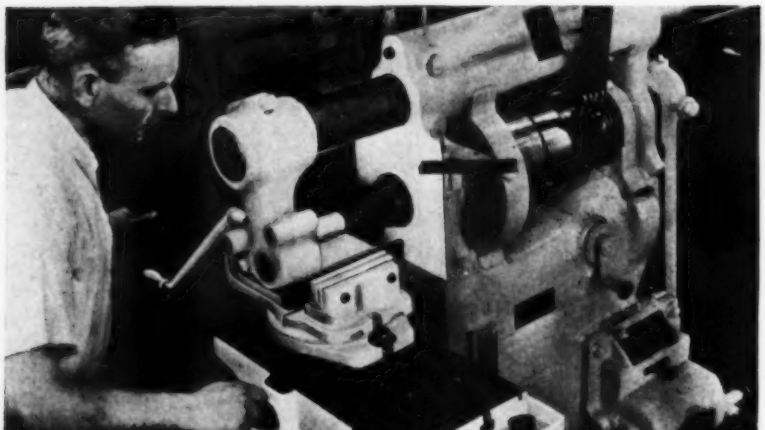
INSIDE NEWS

DECEMBER PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y. 1942

"Three-Dimensional-Seeing" Technique Developed by Du Pont

Light-Colored Machinery and Plant Interiors Cut Industrial Accident Rate



AFTER the body of the machine is painted with Horizon Gray and the working surfaces with a contrasting hue, such as Spotlight Buff, the "camouflage" is removed and the material being worked stands out in sharp contrast.

"Three-Dimensional Seeing," a technique of using color and light to improve vision of machine tool operations, was introduced a year ago. So rapidly did industry adopt the idea that a three-year research program conducted by the Philadelphia Electric and Du Pont Companies was continued indefinitely. Last month before the Illuminating Engineering Society latest research results were announced.

Since the new findings are an extension of the original "Three-Dimensional Seeing" idea, it is advisable first to describe briefly what the 1941 concept was and what it aimed to accomplish.

Du Pont and Philadelphia Electric found from controlled tests under shop conditions that conventionally painted machinery provided a dangerous degree of camouflage. Dark finish coats absorb illumination instead of reflecting it. Material under fabrication blends into the dark mass of machinery, placing a heavy strain on workers' eyesight. The percentage of rejects was needlessly high. Danger points were all too inconspicuous.

Operator time-study and psychology test data were correlated with photometric readings of light reflected from machines painted in many combinations of bright, contrasting paint colors. It was recommended, as a result, that machines should be finished in light gray with working areas spotlighted with light buff.

Subsequent trial by industry bore out claims that this paint system reduced personal injuries, increased production, created more comfortable working conditions and improved morale.

The new phase of the better vision program through scientific use of light and paint colors is based on the fact that many well designed plant lighting systems are robbed of efficiency by dull walls, ceilings and floors.

Research revealed that these surfaces could be finished with paints having much higher reflection qualities than previously was thought practical. In this way, illumination may often be doubled without altering existing facilities or increasing electric consumption. The entire interior becomes a giant reflector, and light rays instead of turning up their toes and dying on dark surfaces will bounce back and forth, doing their job over and over again.

For example, a white ceiling (reflection factor 90 per cent), ivory walls (75 per cent), a dado of green enamel (68 per cent), and a white floor stippled with brown (70 per cent) provide seeing conditions greatly over the average. Injuries decline, production improves and operators appreciate their cheerful surroundings (235)

From Melon Patch to Ice Cream Freezer

Zucca melons provide the basis for a unique British Columbia food industry. The melons are peeled and cut up into small pieces, which are packed into barrels. Sulphurous acid is poured into the barrels through the bungholes and the barrels are stored outside for a period of about ten days. They are then brought into the processing plant and stored for shipment.

The processed melons are sold to manufacturers and ultimately make their appearance in various colors and forms in tutti-frutti ice cream, in cake mixes, and in fruit cake sold by bakers.

The melons are grown in the boundary country around Osoyoos at the southern end of the Okanagan valley. The average weight of the melons is 40 to 50 pounds. (236)

Tests Oil From Po-Yok Trees

Further research into the properties of oil from the kernels of the po-yok tree has been made by the Imperial Institute with the assistance of research workers representing British paint and varnish manufacturers, reports the British trade press. Oil from the po-yok tree, which is native to tropical West Africa, is very closely related to citicica—so far the most successful commercial substitute for tung.

Tests indicate that po-yok oil has valuable properties for making paints and varnishes. The products are not equal to those made from tung, but generally are superior to those made from linseed oil, it is stated.

It is thought that Sierra Leone could ship 100 tons of po-yok kernels annually. While ordinarily this quantity would be of little commercial interest, under war conditions it merits consideration. (237)

Argentina Forms Edible Oil Industry

Cut off from her sources of olive oil by the war, Argentina has formed its own edible oil industry. Olive oil formerly was imported from Spain and Italy, but oil from sunflower seeds, peanuts and cottonseed is being used as a substitute. The number of workers now engaged in the Argentina edible oil industry is 123 percent higher than in 1937 and wages are 165 percent higher. (238)

* * * * *

Camphor trees, a Korean-Japanese monopoly, are being planted in California to supplement production here of synthetic camphor.

BY
NATIONAL CAN

DECEMBER PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y. 1942

Hydro-Cooler in Action

Hydro-Cooler Increases Shipping Range of Farm Produce

Top quality fruits and vegetables aren't top grade when the consumer opens the can in her kitchen unless the canner has been able to hold the time between harvesting and processing to a few short hours. The shorter the time, the higher the quality of the canned product. Ordinarily that means that canning plants must not be more than a maximum of 25 or 30 miles away from the fields or orchards.

Science is changing that. In the Pacific Northwest progressive growers have found out how they can ship some canning fruits and vegetables as far away as 250 miles with the assurance that they will reach the canner in A-1 condition. This is accomplished by hydro-cooling equipment which chills the produce to a point where it will not deteriorate in transit. A box-like device about 20 feet long, through which a conveyor moves, the Hydro-Cooler can chill asparagus with a field temperature of from 65° to 70° to 34° in 12 minutes. Ice is placed in the bottom of the cooler. As the produce moves slowly through it, a pump sends water over perforated baffles to spray the fruit or vegetable being cooled. The water is then returned to the bottom of the cooler for re-use. Pump capacity is 3,000 gallons per minute.

Hydro-cooled and properly shipped, produce reaches the distant processing plant in prime condition for canning. The advantage of being able to extend the radius of the source-of-supply area in wartimes, when growers of canning crops are handicapped by labor shortages, is one that few canners will fail to appraise properly. (239)

* * * * *

Men in the armed forces of the United States like their food well seasoned, judging from the vast quantities of salt and condiments purchased by the Quartermaster Corps. In recent purchases, the Jersey City Quartermaster Depot acquired 30,000,000 lb. of table salt; 1,800,000 lb. of black pepper; 3,600,000 lb. of prepared mustard, English type; and large quantities of dry mustard, the latter in 4-oz. cans for overseas shipment.

New Safety Solvent Cleans Army Rifles

A new hand-wiping safety solvent which is to be marketed as a safety replacement for naphtha, gasoline and kerosene in removing cosmoline out of rifles issued to troops, has recently been developed. The new solvent is also applicable for wide industrial use as a naphtha substitute for grease cleaning and hand-wiping operations in ordnance factories or shell plants.

The new solvent is described as a unique safety solvent because in spite of its high solvency against mineral oil or dirt, it does not de-oil the skin, has no toxic vapors, no flash or fire point, and leaves no invisible rust-preventative film so thin it cannot be detected. It is said to quickly lubricate and preserve wet metal surfaces from rust. (240)

Here It Is! This is synthetic rubber being taken off a moving belt and piled ready for shipment at one of the rubber plants of the Standard Oil Company. Less than twenty-four hours before this picture was made this same rubber for the most part was just so much petroleum refinery gas. Thanks, however, to some twelve years of pioneer experimental work and constant research, Standard's petroleum technologists learned how to convert these products into a synthetic rubber which will do its part to supply a nation whose natural rubber supplies have been cut off by Japanese conquests. (241)

* * * * *

There are 1,800 fats and oils, not counting petroleum and perfume essential oils. Of these, 30 are essential in war and industry.

Technical Topics

FERRIC SULPHATE is now used to restore the shine to brass. (242)

SULFA DRUGS, nemesis of so many bacterial diseases of men, didn't bother insects in recent tests to find its value as an insecticide. (243)

METHYL CELLULOSE is finding use in cosmetic products such as tooth paste, shaving cream, hand lotions and waving fluids (244)

GLUE volume may be increased through the addition of twenty-five percent of a new pulverized material. Glues containing the extender are also stated to flow freely. (245)

SOYBEAN and other semi-drying oils may be heated with a polyhydric alcohol and a polycarboxylic acid for the preparation of oxidizing alkyd resins by a method described in a recent United States patent. An acidic natural resin and fatty acids are employed to facilitate the combination of the oil and the resin molecules upon their formation. Solutions of the resins and a drier in mineral spirits produce films which dry hard and tough overnight. (246)

BLUE PHTHALOCYANINE is declared to be converted to a green or even yellowish-green pigment by the addition of oxazol, thiazol, or imidazol groups to the benzene nuclei of the original compound, according to a recent United States patent. The green shades are clear and fast, it is added, and were found to be suitable for use as printing pigments. (247)

BITUMEN DISPERSIONS may be economically coated on the inside surfaces of pipes to provide interior anti-corrosive coatings by an electrolytic method described in a recent British patent. Basis of the coating method was discovered when it was found that an electric current passing between two metal electrodes dipped into an aqueous bitumen dispersion caused the negatively-charged bitumen micelles to migrate to the anode and accumulate thereon as a gelatinous paste. (248)

LINSEED OIL—A new drying oil produced from linseed oil and intended as a replacement product for chinawood oil has been developed recently. In varnish cooking it is said to polymerize practically as fast as chinawood oil, and to dry hard and glass-like overnight when combined in protective coatings. (249)

Every effort will be made to furnish additional information on these articles. Where such information is not obtainable, we will refer inquirers to the original source of the article. Write to National Can Corp., 110 E. 42nd Street, New York City. Please mention the number at end of article—also name of the magazine you saw it in.

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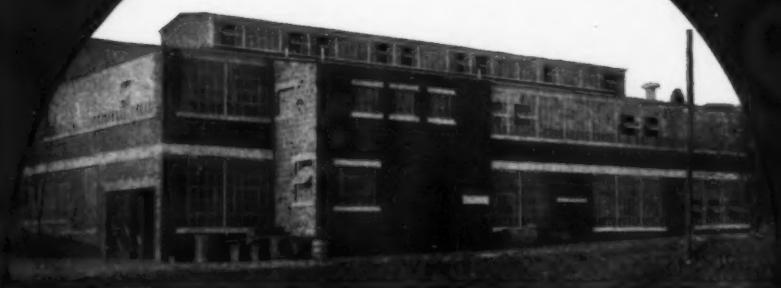
Soluble when used ½ oz. of Performal per gallon of Formaldehyde U.S.P. 40%. If your preparation contains water, we have Performal No. 2 Water Soluble.



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THE DEVELOPMENT of modern fast textile colors pres a need for so-called reducing agents for use in dyeing and pr fabrics. The Rohm & Haas Company was the first to fill this More recently it has contributed, among many other develop textile finishes that make fabrics "crush-proof." The yarn sl illustrated, is typical of equipment in our textile laboratories permits close approximation of mill results.

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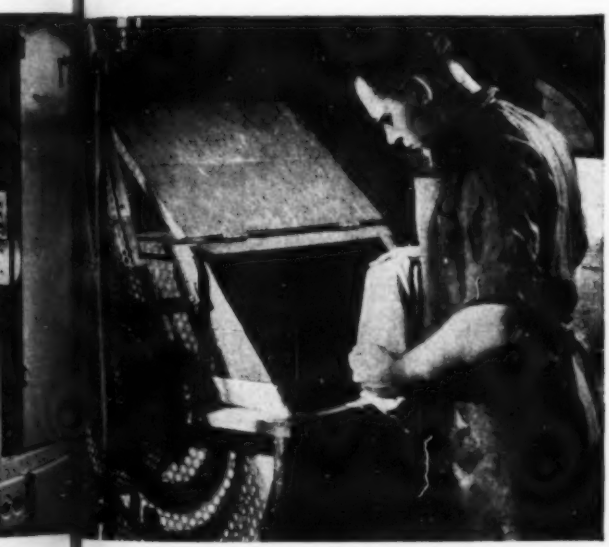
AMONG insecticide manufacturers the Rohm & Haas Company is best known for its development of LETHANE 384 and LETHANE 384 Special. This Company through research has expanded into many other fields of industry and these pages show a few typical examples.

A CLOSE RELATIVE of LETHANE 384 and LETHANE 384 Special is Rohm & Haas LETHANE 60. This synthetic insecticide was developed for use in agricultural dusts and sprays. Commercial use in practically every section of the country has demonstrated on a wide scale that replacing 50% of the rotenone or pyrethrum in dusts and sprays with LETHANE 60 not only stretches this country's limited botanical supplies but actually produces better products.



ROHM & HAAS COMPANY was first to accomplish the ... of enzymes for bating, or softening, of hides. Today, these ... bates, under the name OROPON, are used in practically ... tannery in the world. Later developments include synthetic ... materials which have enabled the industry to produce high ... white leather in great quantity . . . as well as new types of ... finishes producing extremely flexible and washable leathers.

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Worth looking into!

You'll say there *is* a Santa Claus when you see how well glass can solve your packaging problem! That's why it's worth looking into. In addition, it's plentiful...and its use helps Uncle Sam conserve precious steel, tin and tinplate.

There are other reasons, too, why so many manufacturers are using Anchor Hocking glass. Many new developments are responsible for the array of excellent advantages it gives you today. But that's not all. Anchor Hocking also gives extra benefits at no extra cost...the services of its experts in engineering and in biological and chemical research. These men know their business inside out, can be helpful to new users of glass in many ways, including simplifying and expediting change-over.

Today—call in your friendly Anchor Hocking packaging engineer. Ask him about the Anchor Hocking complete package—container *and* closure, made for each other by one company, available from a single supply source. And remember—whether you want the complete package or the containers and closures separately—your best buy is Anchor Hocking!

Worth looking into! *Anchor Hocking Containers and Closures*

Anchor Hocking Narrow Mouth Rounds and Plain Round Jugs are outstanding containers for insecticides, rubbing alcohol, liquid polishes and waxes, and a wide variety of household chemicals. 17 sizes of Narrow Mouth Rounds are available, in amber or crystal, ranging from ½ oz. to 128 ozs., with pint and quart sizes illustrated. Also shown are the ½ gallon and gallon Plain Round Jugs. These containers are easy to dispense from, make it possible to see quantity at all times.

Anchor C.T. Cap...Pitch of cap thread and glass container thread matches throughout their entire length, gives better, tighter seal. Absence of interference between cap and container threads makes cap easier to spin off or on. Fine knurls, cylindrical side walls and neatly turned wire edge provide better appearance.

ANCHOR HOCKING

GLASS & CAPS

ANCHOR HOCKING GLASS CORPORATION • LANCASTER, OHIO

...and there's also a Right Way

To be properly perfumed, an insecticide should be put into the hands of a competent perfumer, experienced in this special field. Insecticides must be carefully treated so that the proper balance between base odor and perfume be achieved. There is a right way to perfume an insecticide which leaves no obnoxious base odor and no perfumy pall.

VAN AMERINGEN-HAEBLER, INC.

315 FOURTH AVE. ★ NEW YORK CITY

The eyes of all America are upon the United States Treasury Roll of Honor appearing in the "Payroll Savings News." For copy write War Savings Staff, Treasury Department, Washington, D. C.

HOW TO "TOP THAT 10% BY NEW YEAR'S"

Out of the 13 labor-management conferences sponsored by the National Committee for Payroll Savings and conducted by the Treasury Department throughout the Nation has come this formula for reaching the 10% of gross payroll War Bond objective:

1. ***Decide to get 10%.***
   It has been the Treasury experience wherever management and labor have gotten together and decided the job could be done, the job was done.
2. ***Get a committee of labor and management to work out details for solicitation.***
   a. They, in turn, will appoint captain-leaders or chairmen who will be responsible for actual solicitation of no more than 10 workers.
   b. A card should be prepared for each and every worker with his name on it.
   c. An estimate should be made of the possible amount each worker can set aside so that an "over-all" of 10% is achieved. Some may not be able to set aside 10%, others can save more.
3. ***Set aside a date to start the drive.***
4. ***There should be little or no time between the announcement of the drive and the drive itself.***
   The drive should last not over 1 week.
5. The opening of the drive may be through a talk, a rally, or just a plain announcement in each department.
6. Schedule competition between departments; show progress charts daily.
7. Set as a goal the Treasury flag with a "T."

AS of today, more than 20,000 firms of all sizes have reached the "Honor Roll" goal of at least 10% of the gross payroll in War Bonds. This is a glorious testimony to the voluntary American way of facing emergencies.

But there is still more to be done. By January 1st, 1943, the Treasury hopes to raise participation from the present total of around 20,000,000 employees investing an average of 8% of earnings to over 30,000,000 investing an average of at least 10% of earnings in War Bonds.

You are urged to set your own sights accordingly and to do all in your power to start the new year on the Roll of Honor, to give War Bonds for bonuses, and to purchase up to the limit, both personally and as a company, of Series F and G Bonds. (Remember that the new limitation of purchases of F and G Bonds in any one calendar year has been increased from $50,000 to $100,000.)

TIME IS SHORT. Our country is counting on you to—

"TOP THAT 10% BY NEW YEAR'S"

EVERYBODY EVERY PAYDAY AT LEAST 10%

Save with
War Savings Bonds

This space is a Contribution to America's All-Out War Effort by SOAP

CONTINUING research is demonstrating the effectiveness of this SAFE, vegetable insecticide in the control of insect pests. As a result, the demand for Kenya Pyrethrum increases continually for use in the armed forces, on the farm and in the home.

KEN YA PYE

REG. U. S. PAT. OFFICE

Meaning KENYA PYRETHRUM

THE GREAT, NATURAL **SAFE** VEGETABLE INSECTICIDE

STOP THE EVER MARCHING PEST COLUMNS
. . . WITH KEN-YA-PYE!

...Official Test Insecticide

STOCKS of the 1942 Official Test Insecticide are available for immediate shipment from the office of this Association. The 1942 O.T.I. is required for all current testing and grading of fly sprays by the official Peet-Grady Method. The 1942 O.T.I. will remain official until June 1, 1943.

Directions for use of the O.T.I. and the technique of the Peet-Grady Method are given in a booklet, a copy of which is included in each carton of O.T.I.

The O.T.I. is available at $5.00 per dozen bottles, plus shipping costs, to members of this Association. To non-members, there is an additional service charge of $1.00 per dozen bottles. Single bottles are $1.00 each. Check with order is required.

▼

National Association of Insecticide & Disinfectant Manufacturers, Inc.

110 East 42nd Street — New York

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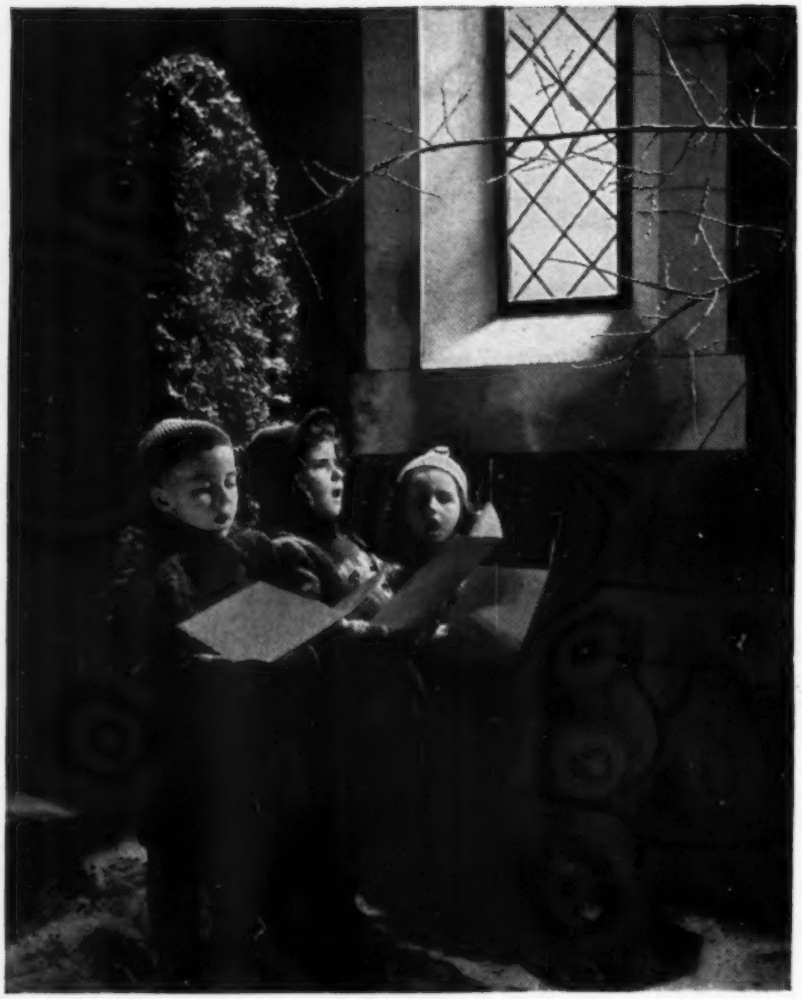

Give
War Bonds
for Christmas

A Merry Christmas
and a
Happy New Year
To All of You

BAIRD & McGUIRE, Inc.

SANITARY PRODUCTS

Official Publication, Nat'l. Assn. of Insecticide & Disinfectant Manufacturers

. . . will we survive ?

AS THE National Association of Insecticide & Disinfectant Manufacturers holds its 29th annual meeting in New York, all attention is focused on 1943. What will next year bring forth? What are the chances of the industry in its present form surviving the war? Will some of the smaller and weaker units be knocked completely out of the picture? Where does it fit into the war set-up? Will companies working wholly or chiefly in supplying civilian goods be forced to quit or change the nature of their business? These and a dozen other similar questions rearing their heads above every establishment in the industry undoubtedly account for the unusually serious vein in which the Association finds its deliberations this year,—the most serious perhaps since its founding in 1914. Manufacturers and distributors frankly are worried and make no bones about showing it.

But the outlook is perhaps not as black as some have chosen to paint it. Our guess is that the industry is going to survive the war much in its present form and that no greater number of units will be knocked out than would be eliminated in any ordinary non-war year. Government departments, particularly the W. P. B., we feel, are coming more and more to realize that products of sanitation,—insecticides, disinfectants, maintenance materials, —are vital in a war economy. Offhand, they may not look too important today compared with airplanes, tanks, guns and shells, but without them, a hundred dangers, any one of which uncontrolled might hamstring an important part of the war output, confront us.

As long as there is food to be shipped and processed, and war plants to be maintained, and the health of our armed forces and workers to be protected, the products of this industry are vital. We fear what might happen if such protective and maintenance products were not available in our present feverish war production. The essentiality of these products as war materials is apparently coming to be appreciated to a greater extent in Washington as time goes on. Thus, we believe that the need for the industry in the war economy,—apart from the large tonnage of materials which it is supplying direct to Army, Navy and Lend-Lease, —augurs well for its survival in spite of openly expressed fears to the contrary.

CLOSE to fifty inmates of the Oregon State Hospital for the Insane died recently from sodium fluoride poisoning, the fluoride having been incorporated either accidentally or deliberately in scrambled frozen eggs served to 467 patients. The very minute this news first broke in the papers, there was probably not an experienced pest control operator in the country who could not have solved the case in one quick guess,—sodium fluoride. Placing the blame on "bad eggs," and a ban on other shipments from the same lot by the U. S. Department of Agriculture, and the frenzied activities of Oregon state officials were all just so much window-dressing—and all too late.

The basic cause of this tragedy lies in the fact that a supply of white sodium fluoride could ever have made its way into an institution of any kind, and particularly into a state hospital for the insane. The absence of a strictly enforced law requiring tinted fluoride permitted these deaths to occur, and Oregon officials have nobody to blame but themselves. Human carelessness may have been a factor, but basically the law was at fault. And the sad part of such tragedies is that we know they will happen again and again, that they will continue to happen until white fluoride is banned for insecticidal use in every state in the country.

RECENT limitations on pyrethrum have found some manufacturers of non-poisonous roach powders in a quandary. With pyrethrum and rotenone materials unavailable, what can they use? Where there are non-poisonous stipulations, sodium fluoride is naturally ruled out. There remain very few suitable substitutes. Foremost to mind comes borax which has been used for years against roaches, mostly however as a diluent for pyrethrum. But borax will kill roaches, say the entomologists, even though it takes about seven days to do the job. More recently, boric acid has been revived as a roach powder, although it was pretty much abandoned twenty years ago for this purpose and is not held in very high esteem by old-time pest control operators with whom we have discussed the subject. There are also several activated dusts, that is dusts which have been impregnated with a small amount of pyrethrum or synthetic insecticide or combination of both.

With this narrow choice of materials, we were asked recently by a manufacturer what could be supplied as a "good" non-poisonous roach powder to a government department. We casually mentioned plain borax and also a mixture of borax with one of the activated dusts, the latter to knock the roaches down and the borax to kill them dead in seven days. But we reserved decision on the use of "good" in the description, —and realized suddenly how important pyrethrum is in a non-poisonous roach powder. Like other things, we don't miss it until we can't get it.

WILL a pyrethrum spray kill snakes? Although to some members of the insecticide industry, this query may have a humorous aspect, it is brought up here in all seriousness. An insecticide manufacturer had been selling his pyrethrum-oil spray for some time to a zoo where because of conditions, insect problems are often quite serious. But this product had been used for spraying the snakes in the zoo regularly for the control of mites on these reptiles. The results were reported as excellent until the arrival recently of a new batch of snakes from the south. Type or size of snake are not mentioned. But it seems that after spraying, all of this new batch died within a half-hour.

Consulting a prominent entomologist, he pointed out that pyrethrum will kill certain fish, frogs, and some other small reptiles. He surmised that such a spray might be dangerous to use around any cold-blooded animal including snakes of good size. Accordingly, the experience of this manufacturer is passed on to others in the industry as a warning.

War Production Problems Discussed by N.A.I.D.M.

Face handicap of growing material and container shortages . . . Hold 29th annual meeting in New York . . . Hear W.P.B. and O.P.A. speakers on outlook . . . Supplies for Army, Navy viewed . . . New technical developments and substitute materials discussed . . .

PROBLEMS which the war has brought to the manufacturer of insecticides, disinfectants, and allied sanitation products are presenting the main subjects of discussion at the 29th annual meeting of the National Association of Insecticide & Disinfectant Manufacturers being held December 7 and 8 at the Hotel Roosevelt, New York. Raw material difficulties, substitute materials, containers and container problems, relations with the Army, Navy and other government departments in supplying finished goods, labeling and specifications, new technical developments in insecticides and disinfectants, the outlook in war production,—these are the topics which make up the bulk of the program of the two-day meeting. Representatives of the W.P.B., O.P.A., Department of Agriculture, U. S. Public Health Service, and other Government departments as well as a number of leading experts from the industry are listed on the program.

Some of the leading speakers and their subjects include Dr. Gilbert L. Dunnahoo, Surgeon of the U. S. Public Health Service on "Disinfestation of Aircraft;" Dr. E. L. Griffin of the Department of Agriculture on "War Problems in Insecticide Labeling;" Melvin Goldberg of W.P.B. on "The Insecticide Situation;" Dr. H. L. Haller, of the Department of Agriculture, on "The Aerosol Insecticide Program;" Dr. R. C. Roark, Chief of Insecticide Investigations, U.S.D.A., on "New Potential Insecticides;" R. S. Solinsky of W.P.B. on "The Can Situation;" William W. Fitzhugh of W.P.B. on "Development of New Substitute Containers;" Edward Casey of W.P.B. on "Coal-tar Chemicals;" N. L. Markwood of the Department of Commerce on "Insecticide Business during Wartime;" and others.

Other leading speakers include Frank W. Lovejoy of the Socony-Vacuum Oil Co. on "Business at War," John W. Vandercook, N.B.C. Radio news commentator, and Dr. C. W. Kearns of the University of Illinois. Committee chairmen who are scheduled to report include Dr. E. G. Klarmann of Lehn & Fink, Inc.; Dr. A. E. Badertscher of McCormick & Co.; F. W. Fletcher of Dow Chemical Co.; F. C. Nelson of Stanco, Inc.; N. J. Gothard of Sinclair Refining Co.; and Dr. R. B. Trusler of the Davies-Young Soap Co. Several symposiums, each covering a series of short addresses by experts in their respective fields are listed, one on various containers, another on disinfectant and sanitary products materials, and one on insecticide materials.

The meeting is covering the usual two days with group luncheons each day. Preceding the regular sessions, a meeting of the Board of Governors was held at the hotel on Sunday evening, December 6. John Curlett, McCormick & Co., Baltimore,

JOHN N. CURLETT
McCormick & Co.
President, N.A.I.D.M.

president of the Association, is presiding, assisted by Henry A. Nelson, Chemical Supply Co., Cleveland, first vice-president. The program is in charge of H. W. Hamilton of the Koppers Company, White Tar Division, secretary of the Association. Registration and financial matters are in charge of John Powell of John Powell & Co., treasurer. The convention will close with an informal dinner to be held at the Roosevelt Hotel on Tuesday evening, December 8. Group singing and other informal entertainment is in charge of A. W. Morrison of the Socony-Vacuum Oil Co. The usual cocktail party and floor show has been eliminated this year. The program in full follows:

—PROGRAM—

Monday—December Seventh
Morning Session

J. N. CURLETT, Presiding

9:00 A.M. Registration.

10:00 A.M. Meeting called to order. Address of the President—J. N. Curlett, McCormick & Co.

Report of the Treasurer—John Powell, John Powell & Co.

Report of the Secretary—H. W. Hamilton, Koppers Co., White Tar Division.

H. A. NELSON, 1st Vice-president
Chemical Supply Co.

Report of the Membership Committee — H. A. Nelson, Chemical Supply Co.

"The War Production Board Industrial and Household Insecticide Manufacturers Advisory Committee"—Ira P. MacNair, MacNair-Dorland Co.

Appointment of Committees.

Election of Nominating Committee.

"Glass Containers and Closures"—Hugh J. Crawford, Consultant Glass and Closure Section, Container Div., War Production Board, Washington, D. C.

"Business at War"—Frank W. Lovejoy, Socony-Vacuum Oil Co.

12:30 P.M. Group Luncheon.

Monday—December Seventh Afternoon Session

J. N. CURLETT, Presiding

2:00 P.M. Meeting called to order.

Report of Insecticide Scientific Committee—General Chairman, Dr. A. E. Badertscher, McCormick & Co.

Mothproofing Committee—F. W. Fletcher, Dow Chemical Co.

H. W. HAMILTON, Secretary
White Tar Co.

Cattle Spray Committee—F. C. Nelson, Stanco, Inc.

"Base Insecticide Oils"—N. J. Gothard, Sinclair Refining Co.

"Insecticide Testing Method"—Dr. C. W. Kearns, Department of Entomology, University of Illinois.

"Metal Cans"—R. B. Solinsky, Chief, Metal Can and Collapsible Tube Section, War Production Board, Washington, D. C.

"The Chemical Situation"—Melvin Goldberg, Specialist, Insecticides and Fungicides, War Production Board, Washington, D. C.

Insecticide Materials Symposium

Pyrethrum—Harold Noble, S. B. Penick & Co.
Rotenone—R. B. Stoddard, Dodge & Olcott, Inc.
Lethane—D. F. Murphy, Rohm & Haas Co.
Thanite—Friar Thompson, Jr., Hercules Powder Co.
Pyrin—Alfred Weed, John Powell & Co.
Velsicol—A. R. Jameson, Velsicol Corp.

"New Potential Insecticides"—Dr. R. C. Roark, Chief, Insecticide Investigations, U. S. Department of Agriculture, Bureau of Entomology and Plant Quarantine, Washington, D. C.

"Agricultural Marketing Administration during Wartime"—Dr. E. L. Griffin, Insecticide Division, U. S. Department of Agriculture, Washington, D. C.

"Dry Skin Milk as a Food for the Adult Fly"—by F. W. Fletcher and Eugene E. Kenaga. (By title)—F. W. Fletcher.

Adjournment.

Tuesday—December Eighth Morning Session

H. A. NELSON, Presiding

10:00 A.M. Meeting called to order.

Report of Disinfectant Scientific and Standards Committee—Dr. E. G. Klarmann, Lehn & Fink Products Corp.

*Disinfectant and Sanitary Products Symposium**

Pine Oil—F. U. Rapp, Hercules Powder Co.
Waxes — J. A. Schade, Innis, Speiden Co.
Petroleum Products — Shell Oil Company.

Report of Nominating Committee.

"Ceiling Prices" — John K. Westberg, Price Executive, Office of Price Administration, Washington, D. C.

*Container Symposium**

American Can Co., Aridor Co., Owens-Illinois Glass Co., Wilson & Bennett Mfg. Co., Thomas W. Dunn Co., St. Regis Paper Co., N. P. Dana.

* Firms other than those listed will be called upon to report also.

GORDON BAIRD, 2nd Vice-president
Baird & McGuire, Inc.

"Insecticide Industry during Wartime"—N. L. Markwood, Chemicals Staff, Bureau of Foreign and Domestic Commerce, U. S. Department of Commerce, Washington, D. C.

12:30 P.M. Group Luncheon.

Tuesday—December Eighth Afternoon Session

J. N. CURLETT, Presiding

2:00 P.M. Meeting called to order.

"Proposed Wax Specifications"—Dr. R. B. Trusler, Davies-Young Soap Co., Chairman, Sanitary Specialties Scientific Committee.

2:30 P.M.

"News of the Day"—John W. Vandercook, NBC News Commentator.

"Disinfestation of Aircraft"—Surgeon Gilbert L. Dunnahoo, U. S. Public Health Service, Washington, D. C.

Election of Officers.
Report of Resolutions Committee.
New and Unfinished Business.
Adjourn.

7:00 P.M. Annual Informal Dinner.

JOHN POWELL, Treasurer
John Powell & Co.

The President's Address . . .

Before the 29th Annual Meeting, National Assn. of Insecticide & Disinfectant Manufacturers, New York, Dec., 7, 1942 . . .

By John N. Curlett
McCormick & Company

TODAY marks the anniversary of the sneak play of the Japs in bombing Pearl Harbor. This attack, to put it mildly, has had a great influence on the trend of all business during the past year including our industry. The problems which we have today seem insurmountable and we all feel sure that the world has never experienced anything like it before and wonder what will be the final outcome. For example, we wonder what will be the outcome of wartime government restrictions on industry. Quote:—

> "When a state increases in wealth and luxury men indulge in ambitious projects and are eager for high dignities. Each feels ashamed that any of his fellow men should surpass him. The common people feel themselves oppressed by the grasping of some, and their vanity is flattered by others. Fired with evil passions, they are no longer willing to submit to control, but demand that everything be subject to their authority. The invariable result is that the government assumes the noble names of free and popular, but becomes in fact that most execrable thing, mob rule."

This sounds as though it came from one of our modern philosophers, describing conditions as they are today. However, in reality, it was written in 125 B.C. and the histories of the world tell the story from that time until now. The same feeling as expressed in the quotation is in the minds of many —yes even in this room; but when we stop and think we know that only through experiences do we progress.

History is being made today, not only by the armed forces, but by industry. Modern miracles are being performed. Our industry has a definite function to perform and it can be expressed in three factors: *Service*, *Sacrifice* and *Co-operation*.

Our *service* is to help maintain the health of our soldiers and our people. No matter what our hardships in procuring raw materials, it is essential that our products be supplied to prevent the spread of disease and epidemics. It is significant that in the islands of the Pacific, where permanent sanitation and hospitalization facilities for handling large masses of troops are not available, that we are not losing men because of disease and infection. Insecticides, disinfectants, sulfanilimide, the airplane, as well as other factors, are contributing to the welfare and safety of our forces.

We are giving to government officials, and interested parties, the benefit of the knowledge of our research departments which is so sorely needed at this time.

Sacrifice is a wartime essential. At this time, it is important that every American realize that business, as well as personal sacrifices, must be made. Our first objective is to win the war and in order to do that we must have a healthy army, navy and a healthy home front. First things come first and it is very likely that it will be necessary to make sacrifices in branded merchandise because of the diversion of our essential products to the war. Research in our laboratories will have to be diverted from products for civilian trade in the building of our businesses, to research for products to protect our men at the front. Day by day this is becoming more of a reality.

Co-operation, the third factor, a noble one—one which years ago people talked of but did little about. However, in our industry, through our Association, co-operation has become a reality. At this time when quick changes and new products are developed, it is becoming even more real, and it is necessary to present a united front to put first things first and see our job well done. Therefore, as individual members we must co-operate one with another to survive as an industry. Only in that way can we place our industry as a vital factor in winning the war and maintaining the health of the nation.

Since our last meeting, an Industry Advisory Committee has been appointed by the War Production Board. A review of their work will be given at this meeting and while this committee is representative of the entire industry, and not our Association alone, they have made excellent suggestions which have proven most helpful in arriving at decisions. Their function is one of advice and with their knowledge of the industry, and its facilities, as well as the problems of the War Production Board, a full service has been rendered to both the government and our industry.

The Executive Office has had its

busiest year in history and our Executive Secretary, as well as the Advisory Committee who functioned so efficiently during my sojourn with WPB for six months of this year, and various committees and the other officers of the Association have given their time and best thought to the problems with which they were confronted. I want to personally thank all at this time for their co-operation.

This has been a hectic year with many changes and at this time it looks as though many more changes will be necessary because of the vital part our industry plays in preserving health, but we must go ahead as we have, a service to our fellow man to perform and when the job at hand is finished, we will be back again building for the future, just as the people back in 125 B.C. must have started when order was again brought out of chaos.

PINE OIL OUTLOOK

By F. U. Rapp
Hercules Powder Co.

EARLY reports indicate that natural pine oil production may drop off ten to fifteen per cent as compared with 1942 production. Scarcity of labor and overburdened transportation facilities will be responsible for any curtailment in production.

Any reasonable reduction in natural pine oil production will be counterbalanced with synthetic production. Synthetic pine oil celebrated its first anniversary this month. During this year economies have been made and production methods improved. These factors have resulted in an appreciable reduction in cost to the consumer. On December 1, 1941, synthetic pine oil was made available at 16½ cents per pound in tank cars in the South. In June, 1942, it was reduced to 10 cents per pound. Today, it can be procured at 7.7 cents per pound in tank cars in the South.

Consumers should realize that normal purchases throughout the new year will enable pine oil producers to distribute the 60,000,000 pounds of pine oil equitably to all industries. Periodic purchases in moderate quantities for consumption only will permit producers to deliver pine oil at a rate that will keep everyone supplied with this basic raw material through 1943.

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Applicability of 4, 6-dinitro-o-cresol as a cockroach poison is the subject of an article by James B. Gahan, U. S. Department of Agriculture, in the October, 1942, issue of the *Journal of Economic Entomology*. The product was found to be more toxic and to kill more rapidly than either sodium fluoride or pyrethrum when tested against the American cockroach. It was more effective at a 5 per cent concentration than pyrethrum at 5 per cent or sodium fluoride at 50 per cent. Exposure to the air in a room for 7 days did not destroy the toxicity of a 10 per cent dust. In tests designed to eliminate the possibility of ingestion the compound was highly effective as a contact insecticide. Of seven materials tested as diluents, talc and redwood bark flour were found to be the most effective. Two characteristics that may limit its use as a control for roaches are its toxicity to animals and its tendency to stain floors and furniture.

———•———

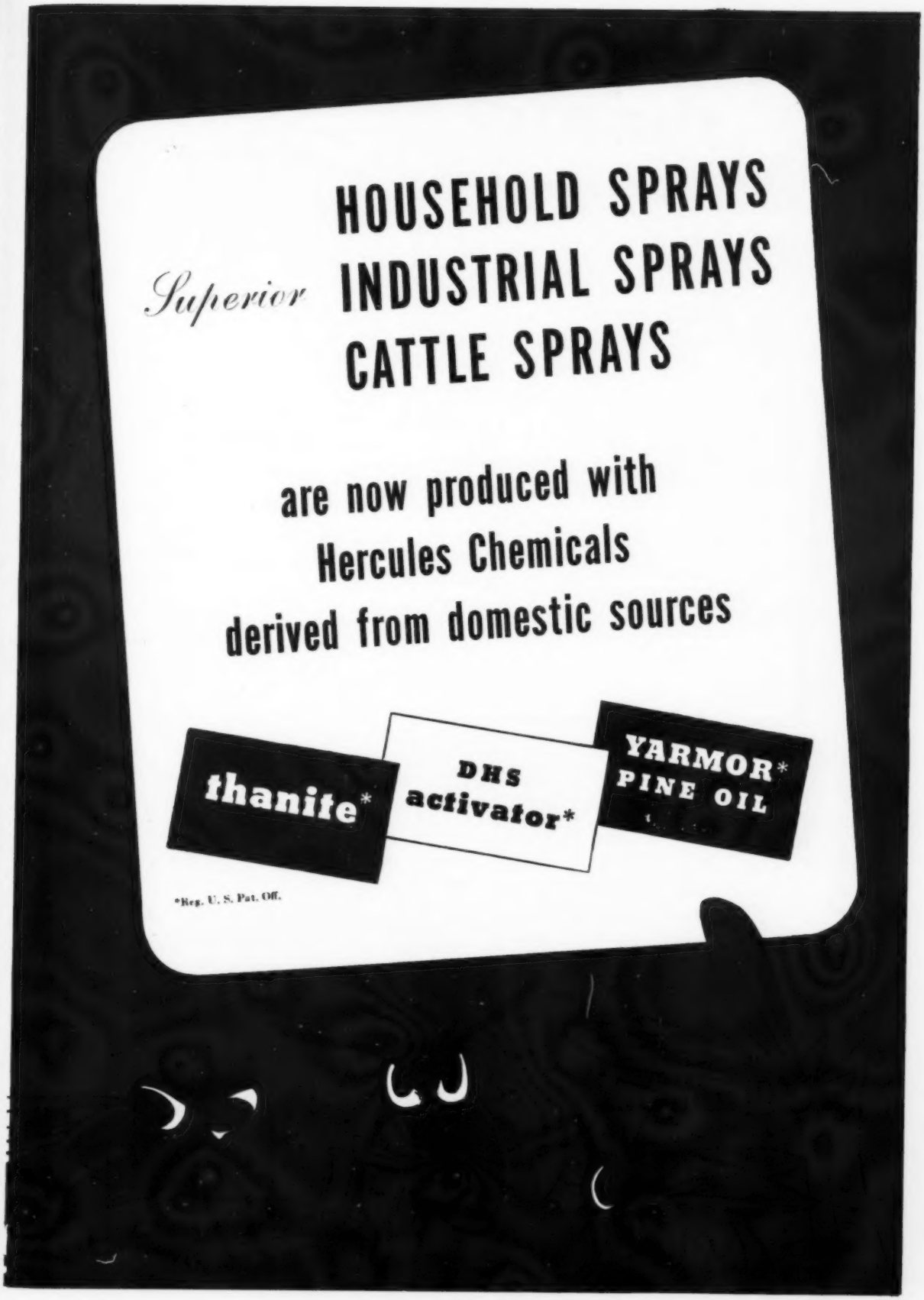
A study of the toxicity of paradichlorbenzene when used as a larvicide in the control of housefly larvae is reported in an article in the October, 1942, issue of the *Journal of Economic Entomology*. The authors, H. C. Manis, A. L. Dugas and Irving Fox, are connected with the Iowa State College, Ames, Iowa. Their experiments involved tests with a series of concentrations of paradichlorbenzene on the third instar larvae of the housefly.

The results show that concentrations of the larvicide above 249.4 mg. per 100 grams of treated food are quite toxic to the larvae, and at a concentration of 1234.6 mg. per 100 grams of treated food 100 per cent mortality was obtained. The median lethal concentration of paradichlorbenzene was found to be 430.5 mg. per 100 grams of treated food. Concentrations corresponding to 497.5 and 1234.6 mg. per 100 grams of treated food resulted in 100 per cent mortality in open and closed garbage pails when applied as a layer over the top of the food.

The toxic action of paradichlorbenzene in these experiments is thought to be due to its combined action as a fumigant and a stomach poison.

———•———

A method is given applicable to the determination of rotenone in insecticidal sprays containing rotenone and kerosene with a phenolic resin (Cardolite 627) as mutual solvent: One volume of the standard toxic solution containing 0.25 per cent of rotenone is diluted to 10 volumes with kerosene. Pass 20 cc. of this solution through a 2 x 22 cm. column of magnesia-sea sand (1:2 by weight) by suction. The column is developed by 125 cc. of petroleum ether boiling at 30-60°C., producing the following chromatogram: Top-1.5 cm., a colorless zone with no fluorescence and no color reaction; 18 cm., light orange zone with no fluorescence and no color reaction (Cardolite); bottom-0.5 cm., intense yellow zone with bluish green fluorescence and intense color reaction for rotenone and deguelin; 2.0 cm., colorless zone with no fluorescence and no color reaction; filtrate colorless with the fluorescence of kerosene but no color reaction. The yellow zone containing all the rotenone is completely eluted with three 25-cc. portions of acetone. The resulting solution is analyzed colorimetrically or polarimetrically for rotenone. F. A. Gunther. *J. Econ. Entomol.* 35, 458 (1942).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HOUSEHOLD SPRAYS
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are now produced with
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DHS activator*
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*Reg. U. S. Pat. Off.

thanite *A powerful toxic agent for household and cattle sprays*

Kills more flies in a 2% solution than a 5% solution of standard pyrethrum extract.

1.75% Thanite makes Grade B spray
2.00% Thanite makes Grade A spray
2.5 % Thanite makes Grade AA spray

Thanite is 100% active. Is completely effective against most common household insect pests. It combines high knockdown, kill, and repellency. Thanite is also used with success in heavy-base oils for cattle sprays.

Compare the killing power of your present sprays with the figures given below, and you will see why so many spray manufacturers use Thanite.

HIGH KILLING POWER IN LOW DILUTIONS

Type of Base Oil	Percentage of Thanite	Dilution Ratio	% Knockdown 10 Minutes	% Dead 24 Hours	Grade	Rating	% Dead & Moribund	Grade	Rating
Deodorized Kerosene	1.75	1:57	98.4	41.2	B	+ 0.8	51.0	A	+ 9.9
"	2.00	1:50	98.9	52.4	A	+12.4	65.3	AA	+24.7
"	2.50	1:40	99.2	59.5	AA	+19.1	75.4	AA	+34.3
"	3.00	1:33	99.7	65.2	AA	+24.8	83.1	AA	+42.0
"	5.00	1:20	100.0	86.1	AA	+41.6	94.6	AA	+48.7
50 Viscosity White Oil	1.5	1:67	94.8	56.6	B	+ 3.7	No moribund flies.		
"	2.50	1:40	99.5	78.5	AA	+25.6	No moribund flies.		
"	5.00	1:20	99.6	89.8	AA	+36.9	99% dead and moribund.		


DHS activator
To conserve pyrethrum
DHS Activator is helping to make existing stocks of pyrethrum produce more fly sprays and agricultural dusts, because it activates the pyrethrum content. This has proved valuable in the war emergency.
A report by the Department of Entomology, University of Delaware (copies on request) contains scientific proof that DHS Activator makes pyrethrum do more work; increases knockdown and kill, and reduces costs. It will make a more active spray with the same pyrethrum content, or it will allow you to maintain your present toxicity with less of this now-scarce, toxic agent. DHS also increases effectiveness against crawling insects. It is compatible with all other materials used in insect sprays.

PYRETHRUM OUTLOOK...

How much will be available in 1943 for household, industrial, and agricultural uses after war needs are satisfied?

HOW much pyrethrum will be available in the United States during 1943? How much of this will be needed for the Army, Navy, Lend-Lease and other government purposes? How much, if any, will be left after filling these needs for the manufacture of agricultural products, and household and industrial insecticides for civilian use? On the answer to these questions depends the immediate future policy of the insecticide industry, both agricultural and household, and to what extent the industry will have to rely on an expanded supply of synthetic materials. On the answers will also depend the character, type and quantities of various insecticides which will be marketed during 1943 and 1944.

Two months ago, the belief was quite general in Washington and among insecticide material suppliers that practically no pyrethrum would be available in 1943 for the manufacture of industrial and household insecticides for civilian use. The figures as then compiled showed that the demand for the aerosol program for the armed forces plus the needs for regular liquid insecticides for Army, Navy, Lend-Lease, etc., might take ten or twelve million pounds and that no pyrethrum would be left for civilian insect spray manufacture. If there were an excess after Government needs were filled, agriculture would have first call on such stocks, according to opinions from both official and unofficial quarters. In short, the average manufacturer of sprays for household and industrial uses would have to depend wholly on synthetic materials and there was no certainty that the supply of these would be adequate to take care of demands.

During the past month, the pyrethrum situation appears to have changed,—or at least, the outlook seems to have changed based on opinions expressed in Washington as well as those reported from Kenya and London. Whereas the previous outlook was for no pyrethrum for civilian use in the United States in 1943, the latest reports indicate that there may be as much as 4,000,000 pounds or more of flowers available for American agriculture and household type sprays next year. Of this, agriculture will have first call on 2,000,000 pounds and up, leaving possibly some 2,000,000 pounds for household and industrial sprays. Included in the agricultural figure are cattle sprays. In the figure for household type sprays, emphasis is placed on the use of this pyrethrum for food and health protection such as mill and mosquito sprays. Total gallonage will be brought up by the use of additional synthetic materials. This is the general picture of this section of insecticide needs as it now stands.

In attempting to calculate available pyrethrum supplies for 1943, several sets of figures have to be considered. Based on a report from London from the British Raw Material Supply Commission as discussed in Washington, they estimate,—and their figure is held to be rather conservative,—that about 11,000,000 pounds of pyrethrum will be shipped to the United States during 1943 from Kenya. On the other hand, the Board of Economic Warfare in Washington hopes that as much as 16,000,000 pounds will be shipped next year. In fact, reports indicate that if the Kenya Farmers' Association will guarantee to ship 16,000,000 pounds or more, the Board of Economic Warfare will agree to an increase in the price of 2½ cents per pound. The present shipping price is 18½ cents per pound and the increase would bring the new price up to 21 cents including cartage and freight to New York, war risk and other insurance extra.

Basing calculations on the more conservative figure of 11,000,000 pounds, the material would likely be distributed about as follows: (1) an allowance of 10 per cent would be made for losses through enemy action, mostly boats sunk by submarines, leaving approximately 10,000,000 pounds. (2) 25 per cent is to be set aside for Lend-Lease requirements. About 2,500,000 pounds would be manufactured into extract and shipped abroad on Lend-Lease mostly to the Suez area. This would leave 7,500,000 pounds. (3) For the Army and Navy, about 4,000,000 to 4,500,000 pounds would be needed. This would allow 1,500,000 pounds for aerosol insecticide bombs, 500,000 pounds for louse powder, and 1,500,000 to 2,000,000 pounds for regular AA and similar sprays. Included in this over-all figure would be something up to 550,000 pounds for the U. S. Public Health Service, partly as aerosol and partly as regular spray for airplane disinfestation and similar work. (4) This would leave about 3,500,000 to 4,000,000 pounds for agriculture and household sprays. On this supply, agriculture and stock sprays would have first call. Mill sprays, and sprays for food processing factories and other essential uses would also receive important consideration. From

this quantity would also come the requirements of professional pest control operators for pyrethrum powder for essential industrial insect control. It was reported that an adequate supply of pyrethrum for this latter purpose would be made available from these stocks.

Of course, the foregoing figures are all approximations, almost speculation, and do not add up exactly to the total as given. So many factors which may vary from month to month are involved that no accurate picture of the outlook can be drawn. The main impression which they give is that there may be larger stocks of pyrethrum than was heretofore believed possible. Furthermore, the actual shipments may be nearer to the "hopes" of the Bureau of Economic Warfare than to the conservative estimate of the British Raw Materials Supply Commission. At the higher price with a greater incentive to produce and ship the flowers, it has been held in Washington that Kenya can boost its output over 20,000,000 pounds by 1944. If sinkings do not take a much heavier toll than previous experience indicates, hopeful thinking makes a total of 15,000,000 pounds for 1943 appear likely.

RIGHT now, stocks of pyrethrum in the United States are low. In order to fill the sudden needs of India for pyrethrum to combat a serious epidemic of malaria, the Kenya Farmers' Association has been forced to cancel portions of contracts on material destined for the United States. These cancellations have approximated 25 per cent of material destined for recent shipment and have not helped the stock situation in the United States. Incidentally, these cancellations are on contracts calling for a price of 18½ cents per pound. Subsequent shipments to replace cancellations will undoubtedly be made at the expected higher price of 21 cents per pound. All told by the end of 1942, about 8,000,000 pounds of pyrethrum will have been imported during the year into the United States. This figure is well below average and accounts along with war demand to a great extent for the shortage today.

The situation in Kenya as reported in Washington is also worth a word or two in comment. Some thousands of acres of flowers were left unharvested this year in Kenya, reports state. Growing costs there have jumped sharply, particularly taxes which have multiplied several fold. The opinion has been expressed that it will take the higher price to the Kenya growers really to get the crop harvested and shipped. At the lower price, shipments are not likely to come up to expectations, but with a 1½-cent increase, higher growing costs will be covered and there will be the necessary incentive to push collection and shipments.

Behind the changed outlook in pyrethrum for 1943 are several factors, chief of which is the reduced estimate of Army needs. Up until a month or so ago, it was believed that the American Army alone would require 8,000,000 or 9,000,000 pounds during 1943. More recently, that estimate has been reduced to 4,000,000 pounds. Where it had been believed previously that the aerosol program of the Army would require at least 6,000,000 pounds next year, reports,—which of course cannot be confirmed,—indicate that only 1,500,000 pounds are now included in the figures for 1943. There is always the possibility that this may be changed again and that the original large quantity may be required for the aerosol program, but at the moment, it looks like 1,500,000 pounds. The difference between 1,500,000 and 6,000,000 pounds means that 4,500,000 pounds may be available for agriculture and industrial needs.

If approximately 2,000,000 pounds of pyrethrum are available in 1943 for household and industrial insect sprays and for powder for pest control operators, where will this fit into the general insecticide picture? In other words, how much spray will be needed for general industrial and civilian uses in 1943 and what will this amount of pyrethrum permit in the way of production? Taking 1940 as a basis, something like 8,000,000 pounds of pyrethrum went into household type sprays. But the total output of insect sprays that year was estimated at something over 20,000,000 gallons including stock sprays. The difference was made up by synthetic insecticide materials. In short, the equivalent of some 12,000,000 pounds of pyrethrum was supplied by various synthetic concentrates.

With 2,000,000 pounds of pyrethrum available for household and industrial sprays in 1943,—if this hope materializes,—and if the total output of insect sprays is to be as great as in 1940, 90 per cent of the active ingredients would have to be supplied by the synthetic manufacturers. Whether this quantity of the various synthetics is available is not known, but even with the market increase in production, it is questionable. But the chances are that the total production of insect spray will be less than in 1940. Difficulties in securing raw materials alone may cut down the output. Likewise, restriction in consumption of insect sprays to the more essential uses in food and health protection may also limit output. And the effect of container shortages cannot be ignored. But with all this, the demand for insect sprays in view of the general economic situation,—great industrial activity, high payroll levels, etc.,—will probably be as great as in 1940 if not greater. How this demand will or will not be filled will depend altogether on production which in turn will depend on raw materials.

It is believed that manufacturers will be able to sell all the insect sprays which they are able to produce in 1943. If that production comes anywhere near the 1940 figure, or even 20 per cent under that figure, the outlook is for a need of sufficient synthetic materials to make the equivalent of 14,000,000 or 15,000,000 gallons of spray. For out of the 2,000,000 pounds of theoretical pyrethrum for household and industrial products must come the necessary powders for insecticide manufacture and for pest control operators. In short, there may be a cut in insecticides available for civilian household use next year, but the demand for insect sprays for industrial and health use will probably more than offset this. It would appear that everything will depend on not only the pyrethrum situation but on the supply of synthetic materials available in 1943.

From the angle of the insect spray manufacturer, the difference in the availability of 2,000,000 pounds of pyrethrum in 1943 for household and industrial products might be the difference between day and night. Most of the synthetic materials on the market suitable for household type or stock sprays require the use of a certain percentage of pyrethrum to give their best results. One or two synthetics are recommended for use alone and show effectiveness where they are the sole ingredient of a spray. But with most synthetics, pyrethrum is required for a quick knock-down. Thus the availability of some pyrethrum next year, even only 20 or 25 per cent of normal requirements, will aid in making available a much larger quantity of satisfactory insect sprays where synthetics may make up the major portion of insecticidal ingredients. In short, most synthetics are not satisfactory insecticide materials unless they are used in combination with some pyrethrum. It is conceivable that 2,000,000 pounds of pyrethrum might mean up to 10,000,000 gallons of effective insect spray which might otherwise not be available or which might not be of satisfactory quality.

PYRETHRUM QUESTIONS

NUMEROUS questions regarding pyrethrum and its control by the War Production Board are being asked frequently in the insecticide industry. In order that the basic situation in pyrethrum allocation may be understood, a well-known pyrethrum expert has prepared a list of the more common questions and has answered them for publication here. The questions and answers follow:

1. *Is the distribution of pryethrum products controlled?*

Answer:

Yes. Since June 13, 1942, the distribution of all products containing pyrethrum is controlled by the War Production Board through the medium of Order M-179.

2. *Why?*

Answer:

There has been and still is an acute shortage of pyrethrum flowers which fact, together with the heavy demands by our armed forces, necessitated Government control in order that the most essential needs for pyrethrum received due care.

3. *By whom?*

Answer:

The Agricultural Chemicals Unit, Inorganic Section, Chemicals Branch of the War Production Board allocates the distribution of all pyrethrum products.

4. *How?*

Answer:

Knowing the demands of the Army and Navy, Department of Public Health, Lend Lease, Agriculture, etc., the War Production Board thereby knows how much material they have to allocate on the basis of anticipated imports into this country of Kenya pyrethrum flowers. The War Production Board in allocating material gives due consideration to the importance of the order, i. e., material for the armed forces, Department of Public Health, Lend Lease, Agriculture, etc., together with the amount of material which any given concern consumed in a similar period of 1941.

5. *What is the necessary procedure in order to obtain pyrethrum products?*

Answer:

First of all, manufacturers of insecticides should stick to their usual and established sources of supply. Secondly, a company entering an order for material should send the duly filled out *"end use"* certification form in duplicate on their own letterheads signed by an officer of the company, which form is designed to express the exact use for which the material is ordered. This "end use" certification form is as follows:

CERTIFICATION STATEMENT

"I hereby certify the War Production Board and to the seller or supplier to whom this certificate is presented that the pyrethrum hereby ordered is for use as . . . . . and will not be used, sold, transferred or delivered by me for any other purpose. This certification is made in accordance with the terms of Order No. M-197 with which I am familiar.

Name of Purchaser . . . . . .
By name and title of authorized official . . . . . "

In the blank space above in the body of the certification the *"end use"* should be placed and wherever possible, it is best to mention the specific types of insects to be controlled.

6. *What is meant by "end use"?*

Answer:

By the "end use" is meant the exact use for which the products purchased will be used. For instance, the pyrethrum may be used as the toxic in a spray for the Army to control mosquitoes. Or, the pyrethrum may be used as a toxic for a mill spray to control confused flower beetles and other grain insects infesting cereal warehouses, food storage depots, etc.

7. *Is pyrethrum being allocated in accordance with any set procedure?*

Answer:

Yes. Insofar as it is possible, the established procedure covered in questions 1 to 5 will be followed. Undoubtedly, there will be times when unusual circumstances will alter the set procedure.

8. *What are the restrictions as to the amount which can be ordered at any one time?*

Answer:

The War Production Board requests that not more than a 30 days' supply will be ordered at any one time. As producers submit customers' orders and "end use" certification statements to the War Production Board once monthly by the 10th of the month, manufacturers should order for the following month.

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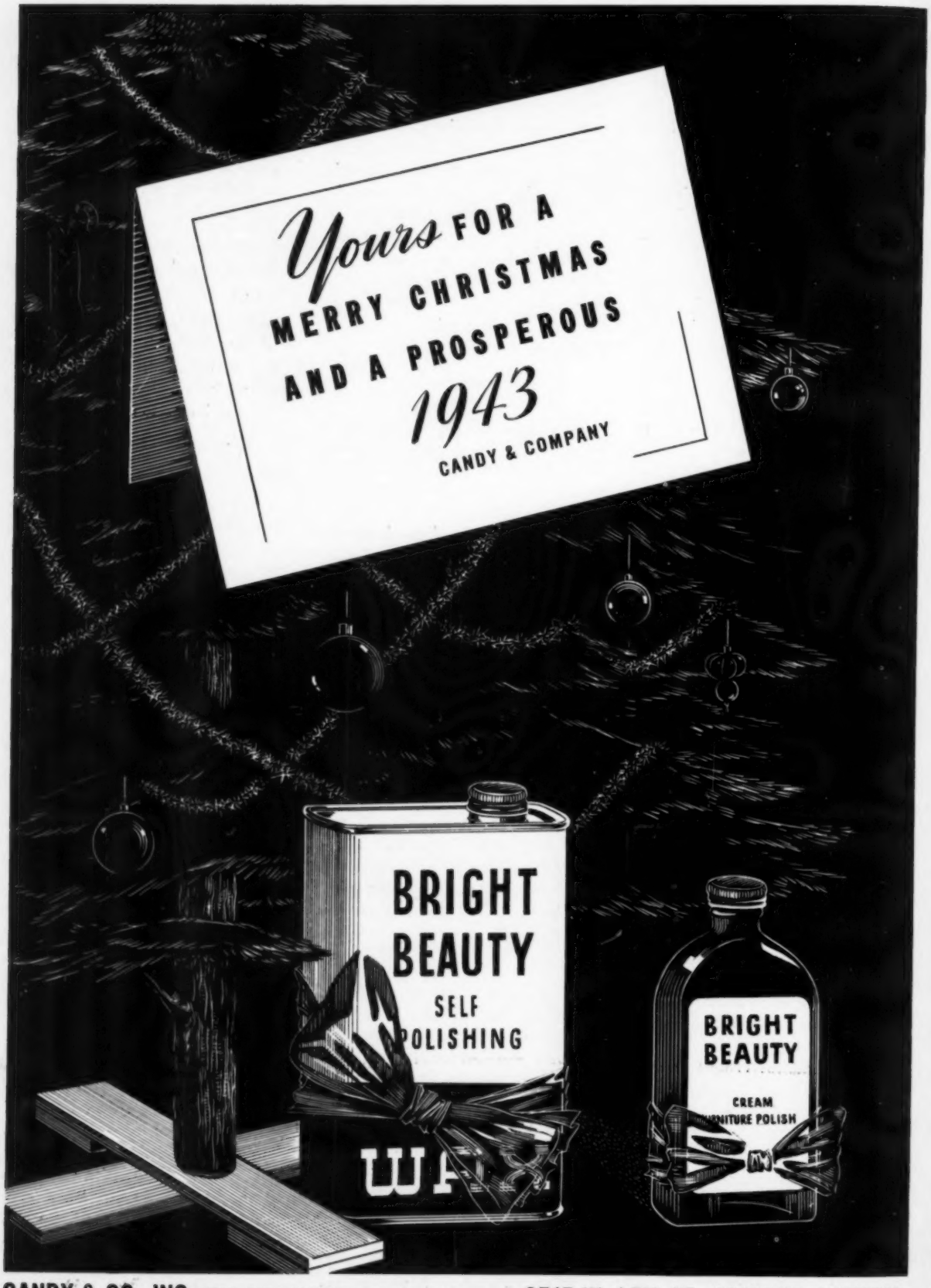

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COAL TAR OUTLOOK

THERE is no group of products more important to the war effort than the coal tar chemicals. The experiences of World War I taught us the importance of such products as phenol and toluol, which were used in the manufacture of picric acid and T.N.T., respectively, but our job then was confined to filling the requirements of our own Army and Navy, plus a small percentage of those of our Allies on one major front. Now we have the burden of supplying a much larger percentage of the requirements of the armed forces of our Allies as well as our own, in a war which will have many major fronts in far corners of the world.

Whereas the use of phenol was confined principally to the manufacture of explosives during World War I, this use, while extremely important in the present war, is far smaller than use for the manufacture of plastics. Many other uses have been developed, which are extremely important to the war effort. Among the most important of these are the manufacture of adhesives for bonding plywood for airplane construction, the solvent refining of aviation lubricating oils and the manufacture of nylon, which is now used almost exclusively for military purposes.

Although the production capacity for phenol before the war was far greater than at any previous time, it was realized during the early days of OPM that restrictions on its use would be necessary and it was one of the first products to be placed under allocation (Order M-27), along with cresol, cresylic acid and other tar acids, both synthetic and natural.

While the plastics industry has long been the largest single consumer of cresols and cresylic acid, there have been many new uses developed in recent years, which have become extremely important in the war effort. The most important of these is the use of cresol in the manufacture of tricresyl-phosphate which, in turn, is used in the manufacture of insulation for electric cable for military equipment. This use has grown to staggering proportions and may require the major portion of all available supplies of cresol. Other important uses are in the solvent refining of lubricating oils, in plywood bonding materials, in lubricating oil additives and in the manufacture of brake linings.

Allocation Order M-27 has just been revised to include the substituted phenols such as paraphenyl-phenol, paratertiary-butyl and amyl phenols, ortho-hydroxy-diphenyl, etc. Tar acid oils are also subject to allocation under Order M-27. However, because of the relatively small percentage of tar acids in these products, WPB has not found it necessary to restrict their use as drastically as the use of the acids themselves.

Duty-free imported cresylic acids are specifically covered in the amendment to Order M-27, and all supplies will be allocated in the same manner as those of domestic production. Users of both domestic and imported cresylic acid, and phenol, cresol, xylenols, tar acid oils and substituted phenols, must make application for allocation on Form PD-600. Importers who plan to use cresylic acid themselves must apply for authorization to do so on Form PD-600, and those planning to resell the material must list the applications of their customers on Form PD-601 in the same manner as the domestic producers.

Whereas allocations under the original Order M-27 were based primarily upon preference ratings, the amended order provides for the reporting of the "end-use" in application and it is believed that the nature of the use will probably be a determining factor in making allocations. Consideration will probably be given to the possibility of less critical chemicals being substituted for the tar acids and restrictions made accordingly. Since the problem of substitution seems to be more easily solved in the manufacture of disinfectants, insecticides and soaps, than in plastics, oil refining, etc., it is likely that there will be further restrictions on the quantities allocated to the sanitary products industry.

Supplies of toluol are controlled by Allocation Order M-34 to insure sufficient for the requirements of T.N.T. which are running so high that practically all other users have found it necessary to adopt substitutes. Several plants have been erected and others are in the course of construction for the production of toluol from petroleum. However, it is not expected that this additional production will make toluol available for solvents, lacquer thinners and similar uses, at least for several months to come.

Benzol is being used principally in the manufacture of aniline and phenol but a new use is developing for large quantities in the manufacture of iso-propyl-benzene for aviation motor fuel. However, the most vital use will be in the manufacture of styrene, a component of synthetic rubber. All other uses will probably be restricted under Order M-137 to assure sufficient for this purpose when the synthetic rubber program gets under way.

Xylol is being allocated under Order M-150 to restrict its use to essential solvents, diluents and chemicals and thereby increase the supplies available for aviation motor fuel. This situation may become worse as the increasing requirements of benzol for the manufacture of styrene reduce the quantities available for the manufacture of iso-propyl-benzene and necessitate allocation of larger supplies of xylol for the aviation motor fuel. However, it is expected that sufficient xylol will be allocated for essential non-military requirements.

There have been indications of

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Outlook in AROMATIC CHEMICALS

By R. M. Stevenson

Givaudan-Delawanna, Inc.

TO preface any discussion on aromatic chemicals, it might be interesting to observe the present situation in contrast to that which existed during World War No. 1. Because of scarcity and the inability to replace supplies, prices in 1914 to 1918 were far higher than those now in effect. At that time there was no aromatic chemical industry in the country and we necessarily had to depend on imports from Europe.

The extensive development of the chemical industry in general during and after the first World War made available in this country raw materials which had not previously been obtainable. As a result of all this, the aromatic chemical industry was developed to the extent that it is now in a position to satisfy the full needs of American consumers,—within, of course, the present limitation of availability of raw materials, some of which are in the "critical" classification. A remarkably fine job has been done in developing substitutes for natural products which have become unavailable, or are too expensive for use in lower-priced compounds, such as oils geranium bourbon, bergamot, lavender, vetivert, oakmoss, and a long line of similar products.

It is necessary in discussing the present situation to generalize and give an over-all picture rather than to refer to individual items. Prices maintained by manufacturers have been remarkably steady since Sept., 1939—in some instances not even reflecting the effect of higher cost of production brought about by increased labor and maintenance charges. This refers to products which are made from strictly domestic raw materials.

When it is necessary to utilize such imported raw materials as oil citronella Java, oil lemongrass, oil bois de rose,—to mention the more important,—all of which find a large use in the aromatic chemical industry for such finished products as hydroxycitronellal, geraniol and its esters, ionones, methyl ionones, citral, linalool and linalyl acetate, the manufacturer has found it necessary to increase prices because of the tremendous increase in the cost of these imported oils. Oil citronella Java, for instance, has advanced from 25c per pound to its present level of approximately $2.50. Lemongrass increased from a pre-war price of 30c per pound to a high level of $4.50 per pound and has since declined to about $1.50. Bois de rose was quoted at approximately $1.25 in September, 1939, and today is quoted at about $4.50 per pound. Such increases in selling price have been kept in direct relation to the actual increase in cost.

AS to future price developments, it is obvious that the establishment of the Price Ceiling Law has stabilized prices at practically the present levels, but as in the case of oil lemongrass, if high prices brought about by speculative activities here and abroad, are reduced, the selling prices of the derivatives will be correspondingly lowered.

The question of availability is a very difficult one to answer. As indicated above, a large number of our raw materials are on the "critical" list, and we are forced to depend on allocations by the War Production Board. So far, we have been quite fortunate, but every indication seems to point to further restrictions of the quantities which wlil be available to our industry. It would be impossible for any manufacturer to give a categorical reply to the question—"Will such and such a product be available six months from now?". We are all operating, from an inventory standpoint, on a hand-to-mouth basis. The manufacture of some of our products represents complicated organic chemical reactions. We may, for instance, have supplies of a primary ingredient and find it impossible to obtain even small quantities of a secondary raw material without which the reaction cannot proceed.

In addition, our industry is facing a rather serious labor problem, due both to losing men for direct military service and the fact that war industries, which can afford to pay greater returns per labor week, plus time-and-a-half for overtime, are drawing trained men from our plants. The container situation is also extremely serious; many of our products are shipped in drums and cans,—but most aromatic chemical buyers are familiar with this subject.

It became apparent, when the Price Ceiling Law went into effect, that many consumers of aromatic chemicals and other perfuming materials had stocked up in anticipation of possible future shortages and fear of increases in costs. The operation of the Price Ceiling Law had the effect of eliminating, or materially reducing, speculative buying, and this, together with the then pending inventory restrictions, plus anticipation of restrictive orders covering con-

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METAL CAN OUTLOOK

By O. G. Jakob

CONTINENTAL CAN CO.

ABOUT two months after Pearl Harbor, February 11, 1942, to be exact, official WPB Order M-81 for the conservation of tin was issued. It can readily be appreciated how necessary this was when we know that at least 66 per cent of the world's tin production came before the war from that part of the world which is now controlled by Japan.

Cans made of tin plate and terne plate were permitted only for packing the most essential products, among which insecticides were classified. Although the use of tin and terne plate cans was restricted by quotas and limited as to sizes, the availability of these containers was of great assistance to the insecticide industry in the conduct of their business. This ruling was short-lived, however, because after further study of the situation by Government officials, it was decided that further action was necessary to conserve the supply of tin. As a result, Amendment No. 4 was issued to Order M-81, effective October 20, 1942, prohibiting the manufacture and use of containers of tin plate or terne plate for insecticides. Thus the only metal package now permitted must be made of sheet steel in limited sizes and quantities.

Can manufacturers believing that a condition of this kind might develop, were not caught unprepared. Experiments had been carried on for some time in the manufacture of containers of sheet steel and today the results look very gratifying.

Quite a few problems were involved in the manufacture of all steel cans because it is difficult to solder sheet steel, particularly with the grade of solder which must be used. The tin content in this solder has been materially reduced or entirely eliminated, and only solder of silver and lead permitted. To overcome this problem the side seam of the can is cemented instead of soldered. The attaching of the nozzle by solder is still necessary, and owing to the necessity of using acid flux and heat, rusting will readily take place around the top where the nozzle is sweated on. It is possible to develop a clinched neck, dispensing with solder altogether, but this requires equipment which is difficult if not impossible to obtain under present conditions.

The bodies of the sheet steel containers can be lithographed equally as well as tin or terne plate, and all other surfaces will be lacquered both inside and outside to retard rusting.

While it is definitely a fact that the sheet steel can will not be the equal of the tin or terne plate can, as it will rust to some extent and the cemented side seam will not be as tight as a soldered side seam, nevertheless, it offers a very satisfactory substitute which is far more practical than many other substitute articles we are forced to use today.

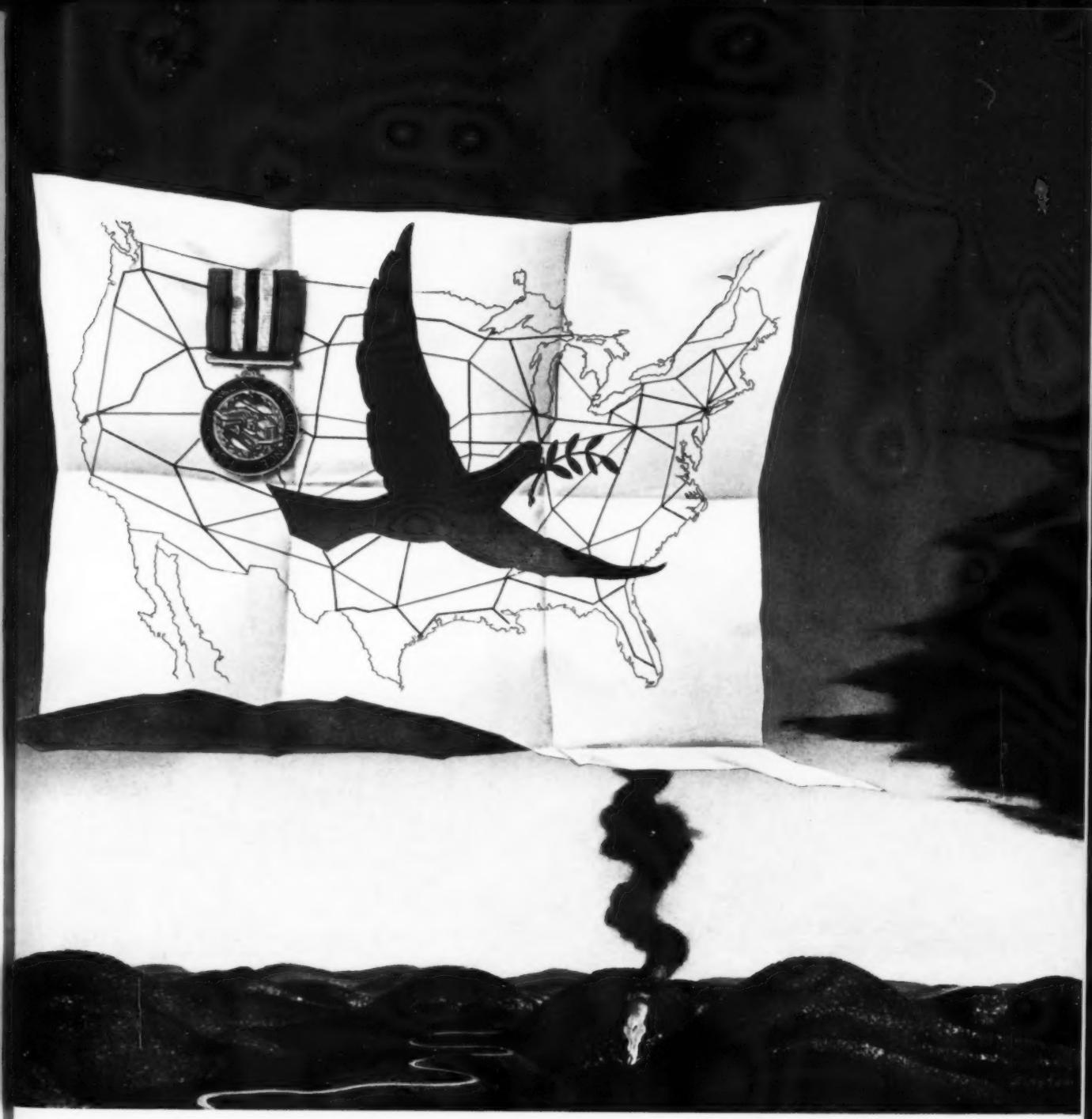
The above might seem optimistic, but the issue is still by no means clear. We fear that in a short time a new and somewhat revised Tin Conservation Order will be issued. What new or additional restrictions it will impose remain to be seen. The conservation of tin is not the only factor now as steel is also a critical material and its use is being restricted almost entirely for war purposes. When one stops to consider the enormous quantities of steel required to produce the number of tanks, ships and planes to be built in 1943, together with the increased consumption of steel for other vital weapons of war, the necessity for conserving this strategic metal for essential war purposes is fully appreciated.

While I am loathe to express my opinion concerning the possibility of the continued use of the metal container for the packaging of sanitary products for the duration, I believe the use of steel for civilian use will gradually be reduced and eventually allocated only for war purposes, and the packing of the most essential food products. As long as sheet steel is permitted and can be obtained from the mills for insecticide cans, it will be possible to obtain containers in the specified sizes which, while admittedly not as good as tin or terne plate cans, still afford a satisfactory substitute.

The restrictions on the use of all materials used in packaging for civilian use are becoming stricter every day. Charles L. Sheldon, Chief, Containers Branch of the War Production Board, prophesied at the annual meeting of the Packaging Institute, November 5th, "that in another six months civilians will look back to today as 'the good old days' when." He stated "that the container situation is changing constantly due to the scarcity of critical materials used in the war effort." "Last spring," he said "when the packaging industry began changing over to wood and paper it was thought then that another change would not be necessary but now even wood is on the critical list and paper is restricted."

To say that the situation is confusing is to put it mildly, and I know that many companies have turned to glass as a substitute for the metal can. But even here the situation is not clear. I understand that the WPB intends to isue an order in the near future further standardizing glass containers. Then again the closure factor is far from settled. I merely mention this to point out that the only thing this is certain is change itself. However, I am not really qualified to comment for the glass industry.

The picture I have painted is indeed a gloomy one, but it is a necessary and inevitable result of all out war effort.



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America, with but a quarter of the population of China, built the finest highway system in the world. That highway system today is paying the nation an unexpected "dividend." For the development of the American highways contributed to the growth of the American coal tar industry and the coal tar industry is now one of the important sources of highly-essential war materials for the nation.

Large quantities of coal tar that formerly went into roads are now being used to make pitch coke and carbon pitches that are important in aluminum manufacture . . . core pitches that help speed the casting of airplane and tank parts . . . naphthalene, from which is made one of the ingredients of flashless powder and of new-type paints for battleships . . . creosote to pressure-treat timber for piers and docks and for construction work, where it is releasing much-needed steel . . . tar acids for plastics . . . target pitch which is helping American marksmen learn to follow the flight of an enemy plane . . . and many other products.

Koppers is producing millions of gallons of coal tar for these purposes and processing it for the recovery of these vital war materials. In addition, it is still turning out huge quantities of road tar for the construction of access roads and airport runways and for the maintenance of existing highway surfaces.—Koppers Company, Pittsburgh, Pa.

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FABRIC PESTS...

Tentative fabric pest deterrent tests as standardized by joint association committee

Reported by *Fred W. Fletcher*
Dow Chemical Company

THROUGH the cooperation of the American Association for Testing Materials, the American Association of Textile Chemists and Colorists, and the National Association of Insecticide and Disinfectant Manufacturers, an attempt has been made to standardize fabric pest deterrent testing methods. These organizations also suggest the use of fabric pest deterrent as a substitute for the highly inaccurate term "mothproofer."

The purposes of these tentative test methods are to provide standard quantitative methods for testing not only the resistance of fabrics and yarns to insect attack, but also the serviceability of fabric pest deterrents. These testing procedures give tentative standard rearing methods for fabric pests as well as uniform methods for reporting the results of tests as an aid to testing laboratories in eliminating confusion resulting from diversity of testing methods. It is hoped that comparability and reproducibility of results will thereby benefit producers, distributors and consumers.

Synopsis of Fabric Pest Deterrent Tests:

Section A. Tentative Method of Test for Resistance of Fabrics and Yarns to Insect Pests.

Section B. Tentative Procedure for Rearing and Handling the Black Carpet Beetle.

Section C. Tentative Procedure for Rearing and Handling the Webbing Clothes Moth.

Section D. Tentative Method of Test for Evaluation of Compounds or Treatments Designed to Increase the Resistance of Fabrics and Yarns to Insect Pests. (Note: This section will be published in a later issue of *Soap and Sanitary Chemicals.*)

Section A

Tentative Method of Test for Resistance of Fabrics and Yarns to Insect Pests

Scope:

1. This method of test covers the biological procedure for determining the resistance of fabrics on yarns, which contain wool or other fibers susceptible to attack by insect pests. The term "insect pests" includes clothes moths and carpet beetles.

Test Fabric:

2. The standard test fabric is Botany style No. 315 broadcloth, which is 100 per cent wool, 10 ounces per running yard, 54 to 56 inches wide, 47 picks per inch, and 71 ends per inch. This fabric is bleached to a fairly good white color, and it has less than 0.5 per cent grease as shown by ether extraction. This cloth may be purchased from the Secretary of the A.A.T.C.C. at the Lowell Textile Institute, Lowell, Mass.

3. Experiments may also be conducted on other types of fabrics which may be of particular interest, provided suitable check tests are run. (See paragraphs 6 and 7). In addition "feeding checks" should always be run on the standard Botany style No. 315 broadcloth.

Test Specimens:

4. At least four test specimens, each with an area of 2 square inches, should be cut from widely spaced portions of the fabric for testing purposes. There are no restrictions as to shape; however, a circular specimen with approximately 2 square inches of cloth cut by a 1⅝-inch die is very convenient.

5. *Yarns.* At least four specimens should be tested, and they may be prepared by winding the yarn on a glass or metal slide so that each of the resulting specimens has an area of approximately 2 square inches.

Control Specimens:

6. *Feeding checks.* In order to determine the feeding capacities of the test insects, at least four specimens of untreated standard test broadcloth should always be exposed under the same conditions as the test specimens. These tests are known as "feeding checks," and if the test insects are feeding properly each fabric specimen should lose at least 30 mg. of weight, and 15 mg. of frass should be produced in tests with black carpet beetle larvae.

7. *Humidity checks.* In addition to the "feeding checks," four "humidity checks" should be run in conjunction with the test specimens. "Humidity checks" are specimens of untreated fabric without test insects, which should be weighed before and after testing so that variations due to humidity changes may be calculated. (See paragraph 17). Due to variable

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humidity conditions it is quite imperative that the weighings of the test specimens and the "humidity checks" be made as closely together as possible. In order to save time the four "humidity checks" may all be weighed at one time.

Test Insects:

8. *Species.* The black carpet beetle, *Attagenus piceus* (Oliv.), and the webbing clothes moth, *Tineola bisselliella* (Hum.), are recommended for testing as representative species of the two most common types of fabric pests.

9. *Number of test insects.* Ten larvae of a given species shall constitute the standard number of insects per test.

Test Cages:

10. *Type.* Any shallow, screen- or non-wool cloth-covered type of metal or glass container large enough to permit the test insects to be either in contact with or off the test specimen should be used. This type of cage allows for good ventilation of the test specimen and freedom of movement of the test insects.

Testing Conditions:

11. Ideally all tests should be conducted in a dark location of a laboratory room where the temperature is 80°F. ± 2° and the humidity 60% ± 4%. As an alternative, the weights of test specimens may be secured by placing them in open weighing bottles in a desiccator and allowing them to remain there overnight before each weighing. The humidity in the desiccator should be regulated to approximately 70% by placing a saturated NaCl solution in the bottom. Upon removal of specimens from the desiccator the weighing bottles should be closed immediately so that the outside humidity will have as little effect on the samples as possible.

Testing Procedure:

12. *General considerations.* All tests including "feeding" and "humidity checks" should be run in quadruplicate against both clothes moth and carpet beetle larvae. The test specimens and checks should be weighed at the beginning and at the end of each test period, on an analytical balance to the nearest 0.2 mg. After taking the weighings at the start of the test each specimen should be placed in a container along with ten test insects, except for the "humidity checks."

13. *Black carpet beetle larva tests.* In tests conducted against the larvae of the black carpet beetle, both loss in fabric weight and the weight of the frass are used as quantitative measures in determining the resistance of fabrics to this pest. Larvae approximately five months old and weighing 4.5 to 6.5 mg. and reared according to Section B are allowed to feed for a period of four weeks. At the end of this test period the quantity of frass shall be determined by freeing the specimens of all loose fibers, cast skins, and larvae, and then weighing. This may be accomplished by removing the test fabric from the container, holding it over a piece of glazed paper, grasping it on opposite sides and pulling back and forth between the hands until all loose material, frass and larvae are transferred to the paper. In the case of pile fabrics and yarns, it is advisable to tap the back of the specimen to free it from all adhering frass. Any loose residue in the container after the removal of the specimen should be transferred to the glazed paper. The material collected on the paper shall then be transferred to a No. 3 Gooch crucible and by repeated tapping of the crucible, the frass shall be sifted through the perforations into a suitable dish and finally weighed. For the purpose of this test all material which sifts through the perforations of the crucible shall be construed as frass. After the test specimens have been freed from all extraneous material they should be weighed.

14. *Webbing clothes moth larva tests.* In tests with the webbing clothes moth larvae loss in fabric weight is the only quantitative measure used in expressing the resistance of fabrics to these pests. Larvae 25 to 27 days old and reared according to Section C should be allowed to feed for two weeks. The cloth is weighed before and after the testing and corrections due to humidity changes should be made as suggested in paragraph 17. In order to weigh the cloth specimens at the end of the test period it is necessary to remove webs, frass and debris left by the larvae with a stiff haired brush such as an acid brush.

Determination and Reporting of the Results:

15. The extent of the damage to the test specimens by fabric pests should be determined on the basis of visual evidences of damage, loss in weight of the test specimens[1], the weight of the frass (for black carpet beetle larvae tests only[2]), and the per cent mortality of the test insects.

16. *Visual evidences of damage.* Visual examination of the test specimens and checks should be made and evidences of damage reported according to:

(1) Warp feeding (W) — breaking of fibers resulting in holes in specimen.

(2) Nap feeding (N) — surface feeding or shearing of nap or pile.

As a suggestion visual damage may be estimated in the per cent of the total amount of the specimen consumed (Example: N-50 W-10).

For excellent resistance test specimens shall exhibit no visual evidences of damage by insect pests (N-O W-O). For satisfactory resistance to insect pests visual damage to the nap shall not exceed 5% of the total surface area of the test specimen (N-O to N-5), with no warp feeding (W-O). This means that the specimen would not be noticeably injured by insect pests.

17. *The loss in weight of the test cloth* due to the actual feeding of the test larvae as affected by hu-

[1] Ralph E. Heal, "Evaluating Protection of Fabrics from Clothes Moth and Carpet Beetle Attack," Jour. Ec. Ent. *35* (2): 249-255, 1942.

[2] Charles H. Stitler, "A Larvae Test for Moth-Resistance of Mohair Piled Fabrics," American Dyestuff Reporter *27*: 729-732, 1938.

midity changes may be determined by the following formula:

$$L = \frac{AC}{B} - D$$

Legend:
A = Average weight of 4 test specimens before testing.
B = Average weight of 4 humidity checks before testing.
C = Average weight of 4 humidity checks after testing.
D = Average weight of 4 test specimens after testing.
L = Adjusted loss in weight of test specimens due to insect feeding.

This formula is applicable to data in which humidity checks either gain or lose weight. (See table 1 for an example.)

For satisfactory resistance to insect pests, test specimens using the standard test fabric must not show an average loss in weight of more than 8-10 mg. providing the loss in weight in the "feeding checks" average 30 mg. or more.

18. *Frass weight*. The quantity of frass in mg. shall be recorded for the test specimens as well as the "feeding checks." Test specimens shall be considered satisfactorily resistant to black carpet beetle larvae if not more than 4-5 mg. of frass or excrement are deposited, provided that under the same conditions more than 15 mg. of frass are produced in the "feeding check."

19. *Mortality counts* are very important when testing a stomach poison type of fabric pest deterrent. However, they are not so imperative when testing repellents. In any event, mortality percentages should be recorded since they are important in demonstrating the vitality of the test insects.

(*Note*: It shall be understood that statements made in determining and reporting of the results, apply only to the resistance of the specimens under the conditions of this test.)

Also details of reporting and evaluating the results of tests on fabrics other than the standard test broadcloth have not been completed and are, therefore, not ready for inclusion in this publication.

Section B
Tentative Procedure for Rearing and Handling the Black Carpet Beetle

The standardization of procedures for rearing and handling test insects is fully as important as a standard test method for evaluating fabric pest deterrents. The following suggestions are offered as a tentative procedure for rearing the black carpet beetle, *Attagenus piceus* (Oliv.).

Rearing Containers:

Any type of container, such as a mason jar, battery jar, tin can, etc., with a screen or non-woolen cloth cover is suitable for rearing the black carpet beetle.

Rearing Medium:

Many types of rearing media have been used successfully on the basis of tests comparing many commonly used types of food the following culture medium is recommended:[3]

70 parts of fishmeal
25 parts of cornmeal
5 parts of powdered brewer's yeast

These materials should be ground to pass through a 20-mesh wire screen.

Insectary Rearing Conditions:

The rearing room or cabinet requires a rather constant temperature of 80°F. ± 5° and a relative humidity of 60% ± 10%. More closely controlled conditions may be advisable but are not necessary.

Maintenance of Cultures:

It is possible to maintain cultures of the black carpet beetle so that larvae of testing size and age are available at all times, only by preventing overcrowding and keeping the cultures well supplied with food.

The black carpet beetle completes a life cycle in 6 to 8 months providing optimum rearing conditions are maintained. In order to secure adults of known age and vitality, the pupae are collected and placed in the rearing medium along with wool cloth which has been well dusted with brewer's yeast. The dusted wool cloth serves as a place for oviposition. Each female may lay as many as 130 eggs, which hatch in 6 to 12 days. They are so fragile that it is inadvisable to handle cultures until the larvae are readily visible. One pint of culture medium will support 1000 larvae for 4 months at which time the larvae should be removed by sieving and placed in fresh food.[4] Sieves are useful for removing frass, dead adults, and in segregating various sizes of larvae. Test larvae may be secured by using individuals which readily pass through a 16-mesh but which will not go through an 18-mesh sieve. Such larvae for the most part will range between 4.5 and 6.5 mg. in weight.

Cast skins may be removed from cultures by a gentle stream of air. Rough paper may be used to separate the larvae from extraneous material. After the material has been allowed to stand on the paper for a moment, it may be tilted carefully so that the inert substances will roll off leaving the larvae clinging to the paper. Separation of larvae from extraneous materials such as food, frass, cast skins, dead larvae and adults, pupae, etc., may also be accomplished by use of the insects' negative phototropic response. By placing the mate-

TABLE 1

Table Showing Example of a Method of Calculating Fabric Weight Loss

Cloth	Aver. Wt. of 4 Cloth Specimens — Weight in mg. before test	Weight in mg. after test	Adjusted wt. loss in mg.
Test (specimens with larvae)	281.4	279.5	1.1
Humidity check (specimens without larvae)	276.3	275.5	...

$$L = \frac{A.C}{B} - D = \left(\frac{281.4 \times 275.5}{276.3}\right) - 279.5$$

$$L = 1.1 \text{ mg.}$$

[3] F. W. Fletcher and E. E. Kenaga, "Rearing Fabric Pests," *Soap and Sanitary Chemicals 18* (9): 92, 93, 101, 1942.

[4] Ralph E. Heal, "Evaluating Protection of Fabrics from Clothes Moth and Carpet Beetle Attack," J. Ec. Ent. *35* (2): 249-255, 1942.

rial to be separated at one end of a flat smooth tray and putting a light over it, the larvae can be conveniently collected at the other end in a relatively short time. Mites may be removed from larvae, pupae, or adults by placing infested insects in a jar which is one-half filled with sterilized rearing media and rotating the container.[5] It may be necessary to repeat this procedure several times.

Section C

Tentative Procedure for Rearing and Handling the Webbing Clothes Moth

By Avery H. Goddin
E. I. du Pont de Nemours & Co.

The following suggestions are offered as a tentative procedure for rearing the webbing clothes moth, *Tineola biselliella*, Hum.

Rearing Containers:

Wide-mouth glass jars of quart or half-gallon sizes are suggested. The flat lid is replaced by filter paper and held in place by the ring of the lid. Other types of containers of similar size are satisfactory.

Oviposition Cage:

A one-gallon paint bucket with the following modifications is suggested: A section is cut about 2" x 5" from the bottom or side and 16-mesh screen[6] is soldered over it. This opening is covered with wool cloth being held in place by strings or rubber bands. A circle slightly smaller than a ring from a wide-mouth rearing jar is cut in the lid and the ring is soldered to the lid. A jar turned into the ring will close this opening. A ½-inch hole should be cut near the edge of the lid and fitted with a cork.

Rearing Medium:

About ½ teaspoonful of autoclaved dry brewer's yeast[7] with about 20 grams of wool cloth is recommended.

Insectary Rearing Conditions:

A temperature of 80°F. ± 5° and relative humidity of 60 ± 10 per cent is recommended. Other conditions may be satisfactory, but the time for development of the insects will vary.

Maintenance of Culture:

Adults in mature cultures are transferred to the oviposition cage either by suitable suction apparatus or by screwing culture jars into the ring on the lid of the oviposition cage and placing a light behind it.[8] Eggs are deposited on the wool cloth over the screened opening and these should be collected in four days or less to avoid complication due to hatching. This is done by removing the cloth and shaking and brushing it into a dry tray. Gentle air currents remove the lint and the eggs are poured over a 60-mesh screen to remove any mite eggs that may be present. The clothes moth eggs are examined under magnification and any living predaceous forms are removed. The cleaned eggs are then measured in a centrifuge tube and a ratio of 0.2 cc. per 20 to 30 grams wool is recommended. The eggs are scattered on the wool cloth and the dry brewer's yeast is sprinkled over them. The strips of wool are rolled up and held together by strings or rubber bands. The size of roll should be such that it fits easily into the rearing container.

Larvae are ready for test about 25 to 27 days after starting the culture. If the roll of fabric is carefully unrolled on a tray near a low wattage light, larvae can be transferred to fabrics easily and without injury by means of low tension forceps. Larvae not used for test purposes are allowed to mature and the adults are used to continue the culture.

Fabric Moth Protection

A biological method is proposed for evaluating the effectiveness of protective treatments for fabrics subject to the attack of moth and carpet-beetle larvae. Methods for rearing and handling the test insects,—webbing clothes moth, black carpet beetle, and furniture carpet beetle, are given. Standard wool fabric is treated by the chemical agent and hung in the open for three days to reach equilibrium in moisture content. Circular samples 1.25 inches in diameter are cut and weighed. Each sample is placed in a container with 10 test larvae of specified age (24-26 days for clothes-moth larvae, five months for black carpet-beetle larvae, two months for furniture carpet-beetle larvae). After two weeks at 23.3° C. the samples are cleaned and weighed. Loss in weight of the samples is the criterion of effectiveness of the treatment. Practical effectiveness is reached when the sample loses 8 mg. or less.

The experiments show that an effective treatment must protect the sample against both clothes-moth and black carpet-beetle larvae. Testing with other species may be necessary, since the response of one species may not be an indication of the response of another. Visual examination of the extent of feeding and weight of the fecal matter deposited by the larvae is not as reliable as loss of weight for quantitative evaluation of effectiveness of treatments.

Clean wool is not a satisfactory diet for clothes-moth or carpet-beetle larvae. To present the most vigorous conditions of attack, the food value of the fabric must be supplemented by spraying the fabric with an aqueous extract of brewers' yeast in the proportion of 1 gram in 10 cc. of water. Ralph E. Heal. *J. Econ. Entomol.* 35, 249-55 (1942).

Flea Control

Derris powder or pyrethrum, or a combination of the two, are recommended for ridding animals of fleas. Infected bedding and litter must be treated with kerosene or crank case oil to destroy eggs. In the house a good insect spray, atomized kerosene or pyrethrum are suitable. Where fleas get into beds or rugs, dusting these with derris or pyrethrum will remove the fleas. R. E. Roselle and Leonard Haseman. *Missouri Agr. Expt. Sta.*. Circ. 224, (1942).

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[5] Ralph E. Heal, "Evaluating Protection of Fabrics from Clothes Moth and Carpet Beetle Attack," J. Ec. Ent. *35* (2): 249-255, 1942.

[6] S. C. Billings, "Notes on Clothes Moth Breeding," J. Ec. Ent. *29* (5): 1014, 1936.

[7] W. Colman, "Effect of Yeast on Clothes Moth Larvae," J. Ec. Ent. *25* (6): 1242, 1942.

[8] Ralph E. Heal, "Evaluating Protection of Fabrics from Clothes Moth and Carpet Beetle Attack," J. Ec. Ent. *35* (2): 249-255, 1942.

SESAME in INSECTICIDES

Craig Eagleson

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Bureau of Entomology and Plant Quarantine

INVESTIGATIONS on the effect of pyrethrum insecticides on houseflies indicate that their action is only narcotic; for unless a dose in excess of the amount necessary to produce torpor is administered, the insects readily recover.[1] This failure to cause death is a serious deficiency in the performance of fly sprays containing the customary quantity of pyrethrum. It has been found, however, that the addition of sesame oil to pyrethrum fly sprays increases their potency and in large measure prevents the recovery of houseflies. The addition of 5 per cent by volume of sesame oil to a 1-millimolar solution of pyrethrins in refined kerosene (household fly-spray vehicle) produced an insecticide that caused torper within 3 minutes, and from which only 12 per cent of the flies were able to recover.

The discovery of this synergist resulted from trials of 42 animal and vegetable oils[2] as constituents of livestock and household fly sprays. None other than sesame oil exhibited any effect upon the insects.

The hypnotic-dose technic of assaying insecticides, carried out in an aerated spray tunnel,[3] was followed in making laboratory tests of this synergist. The recovery of houseflies after being sprayed with a pyrethrum insecticide to which various percentages of sesame oil had been added is indicated by the time-torpor curves in figure 1, a. Each point on the curves represents the mean torpor, at successive intervals after spraying, for five replications on approximately 55 flies each.

In the case of the unsynergized pyrethrum 92 per cent of the flies recovered, showing that most were only torpid. Only 12 per cent of the flies sprayed with pyrethrum containing 5 per cent of sesame oil were able to recover, 88 per cent being moribund or dead. Previously it has been shown[4] that under these experimental conditions very little recovery of affected flies occurs beyond 6 hours after spraying with pyrethrin solutions.

By converting the percentages used in figure 1, a, into probits (fig. 2, b), the relationship between the

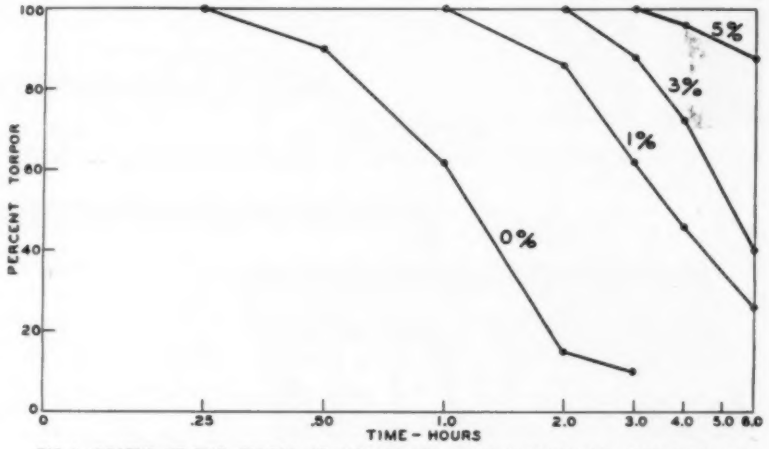


FIG. 1 - GRAPHS OF THE TORPOR OF HOUSEFLIES FROM INSECTICIDES COMPOSED OF 1.0 MILLIMOLAR PYRETHRINS AND THE INDICATED PERCENTAGES BY VOLUME OF SESAME OIL.

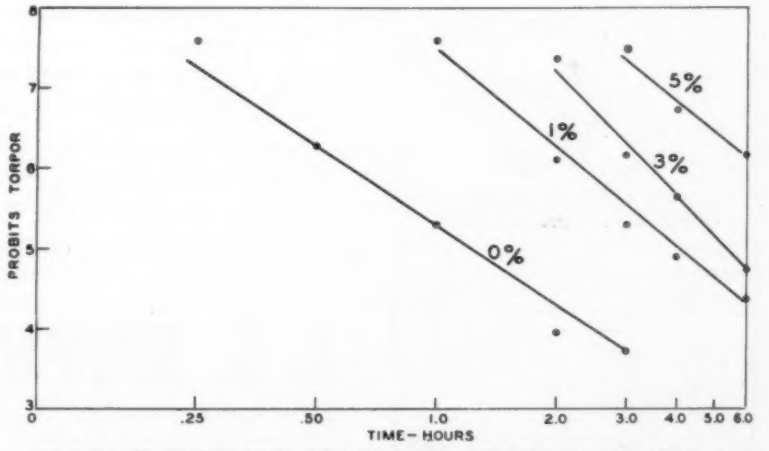


FIG. 2 - GRAPHS PLOTTED FROM DATA OF FIGURE 1, TRANSPOSED TO PROBITS AND FITTED BY THE METHOD OF LEAST SQUARES.

[1] Eagleson, C. Recovery of houseflies from the effects of pyrethrum and lethane at different temperatures. SOAP 18(6):115-117. 1942.

[2] The oils and other products tested which showed no synergism with pyrethrum were as follows: (1) Fixed or fatty oils—almond, apricot kernel, avocado, butter, babassu, cacao butter, candlenut, castor, chaulmoogra, cherry kernel, coconut, cod liver, corn, cottonseed, grapefruit seed, hazelnut, hemp seed, Japanese wood (*Aleurites cordata*), oiticica, olive, peanut, perilla, poppy seed, pumpkin seed, raisin seed, safflower, seal soybean, sunflower, tung, and walnut. (2) Essential or volatile oils: bitter almond, china (*Salvia cuspanica*), origanum, and pine.

[3] Eagleson, C. 1941. Bioassay of livestock spray. SOAP 17(5): 101, 103, 105, 107.

[4] Eagleson, C. 1940. Livestock sprays, a rapid method for determining their toxicity. SOAP 16(1): 96-99, 117.

two variables may be shown by a straight line whose position and slope are determined from the data by the method of least squares.

The effects of adding sesame oil to pyrethrum fly sprays are (1) production of a greater initial effect per unit amount of toxicant, and (2) prolongation of that effect so that recovery becomes impossible for most of the affected insects. At the pyrethrin dosage used—roughly one-third the concentration of satisfactory fly sprays—the strongest flies recover from unsynergized spray between 15 and 30 minutes after spraying. When sesame oil is added, their recovery is delayed from 2 to 4 hours. Herein lies the chief advantage in the use of sesame oil as a synergist. The addition of this relatively inexpensive ingredient permits a reduction in pyrethrin content without degradation of performance.

Data from other experiments show that 5 per cent of the total volume is about the optimum quantity of sesame oil for addition to a fly spray. Those compounded with 10 per cent of sesame have not proved any more effective. When used alone, either pure or diluted with refined kerosene, sesame oil exhibits no toxic action on houseflies. Five samples of oil, both yellow and white, have been tested; no difference in action has been observed.

The chemical composition of sesame oil has been investigated and the active ingredient sesamin separated from it.[5] This crystalline material was dissolved in a modicum of acetone, added to refined kerosene solutions of pyrethrins, and tested for synergism. Sesamin was found to exhibit the same synergism with pyrethrins as sesame oil. Within small zones of error, the curves depicting duration of torpor from 1-, 3-, and 5-millimolar concentrations of sesamin are the same as those from 1, 3, and 5 per cent by volume of sesame oil.

Field trials of sesame oil as a synergist in livestock sprays evoked praise from dairymen who used it. They considered it to be superior to the commercial products they were using. No deleterious effects from its use were observed. Sesame oil applied directly to the coat of cattle causes no erythema, exfoliation, or alopecia.

It is also interesting to note that compounds related to sesamin have been tested for their synergistic action.[6]

[5] Haller, H. L., McGovran, E. R., Goodhue, L. D., and Sullivan, W. N. 1942. The synergistic action of sesamin with pyrethrum insecticides. Jour. Organic Chem. 7(2): 183-184.

[6] Haller, H. L., LaForge, F. B., and Sullivan, W. N. 1942. Some compounds related to sesamin: Their structures and their synergistic effect with pyrethrum insecticides. Jour. Organic Chem. 7(2): 185-188.

Aerosol Against Cheese Flies

Adult cheese-skipper flies, *Piophila casei*, were killed by means of an aerosol made by spraying a sesame oil solution of dichloro - difluoromethane plus pyrethrum oleoresin, into a room containing the flies. Doses of 50 mg. of pyrethrins gave nearly complete mortality. The sesame oil acted as an activator for the pyrethrins. The spray did not stain the floor or walls of the room. S. C. Billings, L. D. Goodhue and W. N. Sullivan. *J. Econ. Entomol.* 35, 289-90 (1942).

Fluorine Insecticides

Hydrogen fluoride, silicon tetrafluoride, fluosilicic acid and boron fluoride showed high toxicity for a variety of insects including grain weevils, bean weevils, bedbugs and cockroaches. For hydrogen fluoride fumigation, the gas can be generated by causing calcium fluoride to react with sulfuric acid by the use of the pure anhydrous hydrogen fluoride in cylinders, by desorbing hydrogen fluoride from inert materials such as carbon, or by generation from phosphate rock with sulfuric acid. The cowpea weevil is easily killed in two hours by the hydrogen fluoride generated from two ounces of calcium fluoride per 1000 cubic feet; at this dosage hydrogen fluoride is as toxic as hydrogen cyanide. Hydrogen fluoride did not prevent germination of corn. It is much less toxic than hydrogen cyanide to man or other mammals. Its irritating vapors warn of its presence. S. Marcovitch. *J. Econ. Entomol.* 35, 288-9 (1942).

Sesamin as Pyrethrum Aid

Sesame oil increases the insecticidal effectiveness of pyrethrins on houseflies, *Musca domestica*, yet when used alone it is not toxic. Sesame oil was separated into four fractions by molecular distillation. The first two fractions were highly effective as activators for pyrethrins when used against houseflies. These fractions were combined and the colorless, crystalline compound, sesamin, $C_{20}H_{18}O_6$, was isolated from them. Sesamin proved to be a highly active synergist for pyrethrins, but in itself was nontoxic to houseflies. No other crystalline product could be isolated from this fraction.

Isosesamin, asarinin, pinoresinol, pinoresinol dimethyl ether and biacetyl pinoresinol, all related to sesamin, were prepared and tested with pyrethrins against houseflies. Only isosesamin and asarinin were effective. Of the compounds tested these were at least as active as sesamin. They most closely resemble sesamin in chemical structure. Evidently the nature of the substituents on the benzene ring rather than their spatial configuration is the determining factor in the synergistic action of this class of compounds. These conclusions can be further tested by systematic examination of other related compounds. The authors believe other more active synergists may be found. H. L. Haller, F. B. LaForge and W. N. Sullivan. *J. Econ. Entomol.* 35, 247-8 (1942).

Market New Collapsible Tube

The Mills Corp., Chicago, has started manufacture of a new type collapsible plastic tube for packaging shaving cream, tooth paste, etc. The raw material used, according to Elmer E. Mills, president, is saran, a vinylidene chloride thermo-plastic, made by Dow Chemical Co., Midland, Mich. It is said to be resistant to acids and solvents, has a low vapor transmission and possesses an elasticity which permits it to be readily squeezed to eject its contents. Colors and printing are applied by the Mills concern. Present filling equipment can be used with slight alteration, Mr. Mills said.

Insecticide Specifications

NEW Federal specifications covering liquid insecticide (fly-spray) (O-I-541) and liquid insecticide (household) (O-I-546) have just been approved by the Director of Procurement for government use beginning no later than March 1, 1943. Wide latitude is allowed in the selection of raw materials in both specifications, the most important requirement in O-I-541 being a performance test, while in O-I-546 the essential requirement is a minimum pyrethrin content. An acceptable product under O-I-541 must test no more than 2 per cent below the O.T.I. on knockdown, and must be 16 per cent or more above the O.T.I. on kill. The Peet-Grady test method, as described in the 1942 *Blue Book* is listed as the official test method.

General and detail requirements of O-I-541 are listed below, together with some of the specified tests on odor, corrosion, staining, etc. Complete copies of both new specifications are available from the Superintendent of Documents, Washington, D. C., at 5c each.

O-I-541

General Requirements

D-1. The liquid insecticide shall not cause irritation to men nor be poisonous to man when applied in the usual manner in the destruction of house flies.

D-2. The liquid insecticide shall have no greater detrimental action upon metal or paint (paint, enamel, varnish, lacquer, etc.) surfaces than the specified solvent (see paragraph F-7a) (4).

D-3. The liquid insecticide shall have no objectionable odor.

Detail Requirements

E-1. The liquid insecticide shall be formulated from a petroleum distillate base, free from kerosene odor and practically free from all odor, and shall be clear and free from suspended matter and shall contain other ingredients to make its performance equal to or to exceed the requirements stated in paragraph E-2f.

E-2. The liquid insecticide shall meet the following requirements:

E-2a. Distillation range.—

Initial boiling point—Not below 350 degrees F.

End point—Not above 530 degrees F.

E-2b. *Flash point.*—The flash point shall be not less than 125° F. (closed cup).

E-2c. *Residual odor.*—When tested in accordance with paragraph F-4, no residual odor shall be present.

E-2d. *Staining properties.* — Shall meet test specified in paragraph F-5.

E-2e. *Corrosion test.*—Shall meet test specified in paragraph F-6.

E-2f. *Performance.*—The liquid insecticide shall be not more than 2 per cent below the "comparison" insecticide in "average percentage knockdown" and shall be 16 per cent or more above the "Comparison" insecticide in "average percentage kill" when tested in accordance with the method specified in paragraph F-7.

Methods of Sampling, Inspection and Test

F-4. *Residual odor.*—Dip strips of No. 40 Whatman-type filter paper of uniform shape and size in the liquid. Remove and allow to dry for four hours in a well ventilated room at a temperature of 70° to 80° F. Examine for residual odor.

F-5. *Staining properties.*—Deposit three drops of the liquid insecticide upon a No. 40 Whatman-type filter paper. The filter paper shall be so placed as to be clear of an under surface in the area upon which the liquid is placed. Allow the liquid to evaporate at 70° to 80° F. from the paper. On another piece of filter paper, follow out the above procedure using a prepared standard (Standard shall be a Pyrethrum extract containing 100 mg of mixture of Pyrethrins I and II, in proportions occurring normally in commercial pyrethrum flowers, in 100 ml of "specified" solvent, (see paragraph F-7a(4)) instead of the liquid insecticide. Examine and compare filter papers, after 48-hour drying period, for status or discoloration. The liquid insecticide shall show no more discoloration than that shown by the prepared standard.

F-6. *Corrosion test.*—The corrosion test shall be carried out in accordance with Method 530.23 (Detection of free sulfur and corrosive sulfur compounds in gasoline) of Federal Specification VV-L-791. Similar to A.S.T.M. Method No. D130-30. Liquid insecticide shall be considered as not meeting the requirements of this specification when on examination the exposed copper strip shows more than extremely slight discoloration as compared with the fresh copper strip.

F-7a (4). *"Specified" Solvent.*—The "specified" solvent shall be a petroleum distillate meeting the following requirements. (Note: All tests shall be carried out as indicated under test methods specified in Section F.)

Appearance—Clear and free from suspended matter.

Color—Not less than Plus 25 (Saybolt Chromometer).

Distillation Range—Initial boiling point, not less than 350° F.; end point, not above 530° F.

Residue from Distillation—Neutral.

Corrosion Test—Shall meet specified requirements (See Paragraph F-6).

Flash Point—Not less than 125° F. (Closed cup).

Odor—Free from kerosene odor and practically free from all odor.

Residual Odor—None.

The specification for liquid (household) insecticide (O-I-546) follows very closely along the lines of the O-I-541 specification, including the same performance test, with an additional detail requirement, however, covering minimum pyrethrin content as shown below. Both specifications were prepared for permanent use. In addition it is planned to issue very shortly an emergency alternate specification of reduced pyrethrin content, for use during the present emergency in view of the present pyrethrum shortage.

O-I-546

E-1. The liquid insecticide shall be formulated from a petroleum distillate base, free from kerosene odor and practically free from all odor, and shall be clear and free from suspended matter. There shall be not less than 0.15 gram of pyrethrin I with the normally accompanying amount of pyrethrin II (see paragraph F-7) in 100 ml. of the liquid insecticide. Any additional ingredients which when incorporated in the product will comply with the requirements of this specification may be used to bring the strength of the product up to the requirements of paragraph F-8. (Peet-Grady performance test. Ed. Note.)

F-7. *Determination of pyrethrin I content.*—Pipette exactly 20 ml. of sample into a 300-ml. Erlenmeyer flask. Add 50 ml. of normal alcoholic sodium hydroxide solution, or more if necessary for complete saponification, connect to a reflux condenser, and boil gently for 1 to 1½ hours. Transfer to a 600-ml. beaker and add distilled water in such a volume that essentially all the alcohol will have been removed when the volume has been reduced to 150 ml. Add a few glass beads and boil until the volume has been reduced to 150 ml. Transfer the contents of the beaker to a 500-ml. separatory funnel and draw off the aqueous layer into a 250-ml. volumetric flask. Wash the oil layer once with distilled water and add the wash water to the aqueous portion. If a slight emulsion persists in the oil portion, break it by adding 3 ml. of a 10 per cent barium chloride solution. (Caution: After adding barium chloride do not shake vigorously, as a reversed emulsion may form which is difficult to separate.) Add the aqueous barium chloride layer to the aqueous layer and washings. Discard the oil portion. To the aqueous solution add 1 gram of a filter aid and not less than 10 ml. of the barium chloride solution. Do not shake before bringing to volume. Bring to volume, mix thoroughly and filter off the contents of the

(*Turn to Page* 147)

Floor Wax Specification

THE Sanitary Specialties Scientific Committee of the National Association of Insecticide & Disinfectant Manufacturers (R. B. Trusler, Davies-Young Soap Co., chairman) has drawn up proposed specifications for water-dispersion floor wax to be offered to members of the association for a vote upon their acceptability at the meeting opening December 7. In drafting the specifications the committee has allowed considerable latitude in formulation, placing more stress upon performance than upon composition. The members have adopted the position that wear, appearance and degree of slipperiness, for example, are more important to a wax buyer and user than how much carnauba or other wax is present in the formulation. This attitude was taken to be indicated particularly in the present emergency, with raw material shortages dictating the necessity of flexibility in the new specification to encourage ingenuity in working out new formulae.

The committee has also given considerable attention to analytical methods, both physical and chemical, for testing floor waxes, and has drawn up a tentative set of test methods which will also be discussed. The complete text of the specification follows:

Specification For Water-Dispersion Floor Wax

A. General Requirements.

1. The material shall be suitable for application to all sealed floors and floor coverings in general.

2. The material shall be a stable aqueous colloidal dispersion of waxes and other suitable substances. The composition and properties of the material shall be such that it will meet all of the provisions of the detailed requirements.

3. When applied in accordance with the manufacturer's directions, the material shall dry to a lustrous finish without rubbing, buffing or polishing.

B. Detailed Requirements.

1. *Sediment and Stability*—The material shall be a fluid dispersion, substantially free from sediment, and shall remain stable in closed containers at 125°F. for 168 hours, (7 days).

2. *Application*—The material shall be easily applied as a thin, uniform film to clean flooring surfaces.

3. *Color and Transparency*—A thin dried film of the material, prepared by flowing onto a clear glass plate and drying in air at 70°F., shall be substantially transparent and practically colorless as viewed by transmitted bright daylight.

4. *Levelling and Spreading* — The material, when applied as a thin, uniform film on new linoleum shall dry rapidly without streaking.

5. *Lustre or Gloss*—The dried film shall increase the gloss of new linoleum as measured by a light reflectance meter.

6. *Alkalinity* — The material shall not have a pH greater than 10.0 nor less than 4.0.

7. *Surface Tension* — The material shall have a surface tension not greater than 33 dynes per centimeter at 25°C.

8. *Flexibility of Film*—The dried film shall be sufficiently flexible so that no cracking will occur when a 2 coat application, on new linoleum, dried 48 hours at 75°F. and 50 per cent relative humidity is bent through 180° around a 2" diameter mandrel.

9. *Abrasion Resistance*—The dried film shall have an abrasion resistance index (Taber cycles divided by weight of film in mgs. per sq. cm.) of not less than 100 when tested on glass plates using a Taber Abraser (Model J or equivalent) with Tabor C.S. 10 Calibrase wheels.

10. *Tackiness and Slipperiness*—The dried film shall be neither soft and sticky nor excessively slippery.

11. *Water Resistance* — The dried film after 48 hours at 75°F. and 50 per cent relative humidity shall be resistant to cold water. The film shall not be permanently whitened or damaged by contact with water for 1 hour at 70°F. The film shall not be removed by damp mopping with a soft rag using clear water at 70°F.

12. *Removal of Film*—A film dried for 48 hours at 75°F. and 50 per cent relative humidity, on new linoleum, shall be easily removable by moderate scrubbing with a soft bristle brush, using an aqueous detergent solution, containing 0.25 per cent tallow soap chips and 0.25 per cent aqua ammonia (28 per cent NH_3), at a temperature of 120°F.

Chi. PCOs Tell Problems

Gasoline rationing, the critical chemical shortage and conservation of equipment were the three principal topics of discussion at the November 18th meeting of Pest Control Operators in Chicago. Morton S. Prescott, of Protex Service and Walter S. McCloud, of W. B. McCloud & Co., were the principal speakers. Jules B. Smith, of A-Veri-Best Exterminators, presided over the meeting as temporary chairman. More than 50 representatives of Chicago firms attended.

C. Norman Dold, of Rose Exterminator Co., reviewed the highlights of the 10th Annual Convention of the Pest Control Association in Pittsburgh and gave some details of the activities and scope of the Association. Applications from seven firms were received to become members of the National Association.

Hoyer Lieut. in Navy

David G. Hoyer, chief chemist of John Powell & Co., New York, and well-known in the insecticide industry for the past ten years, has been commissioned a lieutenant, J.G., in the U. S. Naval Reserve and has been ordered to report to the U. S. Naval Training Station at the University of Arizona, Tucson, Ariz., for training as a line officer. Mr. Hoyer has been active in collaboration on analytical methods with the Association of Official Agricultural Chemists and has served as chairman of the Chemical Analysis Committee of the National Association of Insecticide and Disinfectant Manufacturers. He has been a contributor to the technical literature on insecticide analysis. He was graduated from Princeton University in 1933 with the degree of Bachelor of Science in Chemistry.

NEWS

Seek Door Type Odorant

A subscriber to *Soap & Sanitary Chemicals* is interested in locating the manufacturer of a rest room deodorant which is fitted to the door check and operates as the door is opened and closed. The desired equipment is of a type in which the plunger expels a certain quantity of vapor each time the door is opened. We shall be glad to pass the name of the manufacturer along to this subscriber if available.

Check "Non-Slip" Wax Claim

Flexrock Co., New York, distributors of household supplies, has agreed with the Federal Trade Commission to refrain from use of the term "non-slip" in advertising their floor wax sold under the name of "Flexrock Non-Slip Wax." The FTC claims that the expression might be misinterpreted when actually there is no proof of the product being "non-slip."

Blame Fluoride in Asylum Deaths

Uncolored sodium fluoride was blamed for some fifty deaths in a poisoning tragedy at the Oregon State Hospital, Salem, Ore., November 18. Several pounds of the fluoride were mixed in an egg dish served to the inmates, making 467 of them violently ill and resulting fatally for a large number. It was brought out at the investigation that the fluoride, used for roach control, was kept in a locked room, and it was difficult to see how it could have been used by mistake. Some evidence was said to point to a deliberate attempt at homicide. Professional exterminators were quick to point out, however, that the basic fault was in allowing uncolored fluoride to be stored in such close proximity to food.

Prentiss in Sanitary Corps

Richard Prentiss, head of R. J. Prentiss & Co., New York, importers of pyrethrum and derris products, has just been granted a commission as captain in the Sanitary Corps, U. S. Army. He was to report for duty

RICHARD PRENTISS

November 30. In his absence the activities of R. J. Prentiss & Co. will continue under the direction of Harold King, who will be in charge of the botanical drug department, Charles Hermann, who will manage the chemical division, and A. W. Bevernick, who will continue as manager of the firm's Chicago office.

A group of some fifty of Mr. Prentiss' friends and associates attended a farewell party in his honor held at the Yacht Club in the Hotel Astor the evening of November 27th.

New Floor Wax Spec

A new Federal specification, (P-W-158) has recently been issued for Solvent Type, Liquid and Paste Floor Wax, superseding the former applicable specification, (P-W-141). There are a number of minor changes in terminology in the new specification, but the most important change is a wider tolerance on drying time. The new specification allows 45 minutes for the wax to dry to a semi-transparent, non-tacky film, as against the requirement in the old draft that this effect be obtainable in 20 minutes. Another change also eases requirements on content. Where the old specification required the wax to be free from "oil, soap or rosin" the new specification merely requires that it be free from rosin. The new specification is to become effective not later than March 1, 1943, although it may be made official before that time. Earlier this year a new specification (P-W-151a) was adopted for Water Emulsion Floor Wax, superseding the former specification (P-W-151).

West Aids Cleanliness Drive

West Disinfecting Co., Long Island City, N. Y., is cooperating in the campaign to promote industrial health by distributing advertising material calling attention of war workers to the need for keeping hands clean. Magazine inserts, posters, etc., used, are printed in red, white and blue, and show Uncle Sam saying "I need your hands. Wash well."

Erfar Suspends for Duration

Ernest E. Reich, operator of Erfar Chemical Mfrs., Baton Rouge, La., has closed his plant for the duration of the war and is now serving in the Chemical Warfare Division of the U. S. Army.

Cole Ammonia Substitute

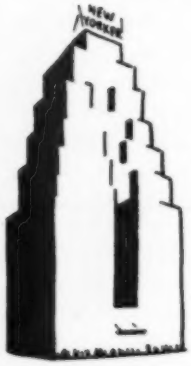
Cole Laboratories, Inc., Long Island City, N. Y., have developed a new product called "Cole-Solve," described as an imitation ammonia. "Cole-Solve" is claimed to do everything that ordinary household ammonia will do in general cleaning and washing. In addition, it is described as having a pleasant pine odor instead of the characteristic odor of ammonia. Cole-Solve is also claimed to be non-injurious to the skin and non-poisonous.

Coast Assn. Elects Gardner

Leo R. Gardner of California Spray Chemical Corp., of Richmond, Calif., was elected president of the Pacific Insecticide Institute at the recent annual meeting at the Palace Hotel, San Francisco. He succeeded Esler Johnson of the San Francisco office of John Powell & Co.

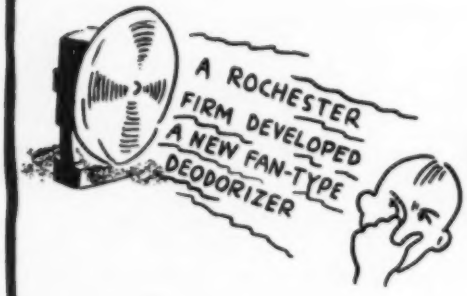
REMEMBER?

10 YEARS AGO

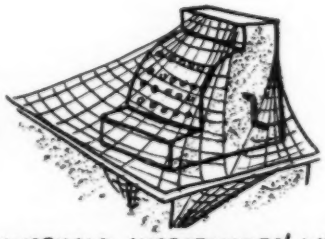


NEW YORK WAS SCENE OF NAIDM 19TH ANNUAL MEETING AT WHICH THE ASSOCIATION LICKED ITS WOUNDS FROM A DEPRESSION YEAR AND ELECTED PETER DOUGAN PRESIDENT SUCCEEDING EVANS E.A.STONE

JAP INSECTICIDES WERE GIVING U.S. INCREASING COMPETITION IN THE CUBAN MARKET

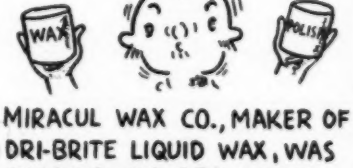


C.P. McCORMICK ELECTED PRESIDENT OF McCORMICK & CO, BALTIMORE



HOUSEHOLD INSECTICIDES' WORST SEASON WAS ENDING— MOST MANUFACTURERS LOST MONEY

RUBBER WAS AN INGREDIENT OF A HAND CLEANSING COMPOUND UNDER A BRITISH PATENT



MIRACUL WAX CO., MAKER OF DRI-BRITE LIQUID WAX, WAS CHARGED BY FTC WITH IMPROPER LABELING. FTC CALLED THE PRODUCT A FLOOR POLISH AND NOT A TRUE LIQUID WAX

Report Rotenone Substitute

THE Eastern Branch of the American Association of Economic Entomologists held its 14th annual meeting at the Hotel New Yorker, New York, November 19 and 20. Of most striking interest was the report of a possible substitute for rotenone-bearing materials in the ground seeds of the yam bean, a tuber-like root grown in some central and south American countries. Roy Hansberry, associate professor of insect toxicology at Cornell University reported on tests of the substitute material against cabbage worms, codling moth larvae, aphis and other insects. Results were as good as those obtained with rotenone in some cases, and in others ranged down to one-fifth to one-fifteenth as good.

Professor Hansberry emphasized that these were only preliminary tests, but added that the yam bean is an annual crop and "may be harvested four to six months after planting," so that "with a sufficient supply of seed produced in 1943, it offers a partial substitute for rotenone insecticides during the 1944 season." The plant is known in Mexico as "jicama," in Brazil as "jacatube" and in some other countries as "sincamas."

Tests in mixing rotenone with synthetic insecticide were reported by Harry G. Walker, entomologist of the Virginia Truck Experiment Station, Norfolk. He and Lauren D. Anderson, assistant entomologist, worked last summer on large fields of canning peas in Eastern Virginia. They found that by mixing in aliphatic thiocyanate, a rotenone strength of .2 per cent killed the pea aphid as effectively as .75 per cent to one per cent straight rotenone dust. In addition the tests showed the synthetic alone, without rotenone, was moderately effective. The comparisons also were made against various forms of nicotine dust and against a nicotine-rotenone mixture, which likewise showed good figures of insect "kill."

Neely Turner, assistant entomologist at the Connecticut Agricultural Experiment Station, New Haven, reported experiments in stretching out the rotenone dust by diluting with such things as talc, clay, tobacco dust and hydrated lime. Pyrophyllite, an aluminum silicate mineral, not only outdid the other diluting dusts but "actually increased the expected effectiveness" of the rotenone.

Philip Garman, research associate at the Connecticut station, told of getting results with less frequent and thus less expensive spraying on apple orchards by using various "stickers." On one mixture tried, he related that "we were agreeably surprised to see it remain on the trees a long time entirely without foliage burn, even in wet weather. The effect was better than with western 'dynamite' mixtures. Insect control is not quite as good as with more frequent and extended spraying, but results are remarkably close."

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New Haag Polish Cloth

"Kemi-Kloth," a new all-purpose polishing fabric, has just been introduced by Haag Laboratories, Inc., Chicago. "Kemi-Kloth" is a special fabric impregnated with chemical cleaners, polishing compounds and waxes designed to clean, polish and put a protective coating on any metal or wood surface originally intended to have a high lustre. A popular use for "Kemi-Kloth" is for polishing jobs around army camps. The cloth comes in glassine envelopes for over-the-counter sales and by the yard for jobbers.

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Chem. Salesmen Nominate

Gerald S. Furman, manager of the New York office of Merck & Co., Rahway, N. J., has been nominated for the presidency of the Salesmen's Association of the American Chemical Industry. Vice-president for the past year, he will succeed C. O. Lind, of Dow Chemical Co., whose term expires at the end of 1942. Phil LoBue, Michigan Chemical Co., was nominated for vice-presidency; Frank Fanning, N. I. Malmstrom & Co., for treasurer; and Charles A. Alexander, Seldner & Enequist, Inc., for secretary.

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Disinfectants in Advisory Comm.

The Household and Industrial Insecticide Manufacturers Industry Advisory Committee of the War Production Board has been expanded to include the activities of disinfectant manufacturers, according to unofficial advices from Washington. The words, "and Disinfectant," have been included in the title of the committee. At the present time, disinfectant manufacturing is represented on the membership of the committee by H. W. Hamilton of the White Tar Division, Koppers Co. (coal-tar), Paul Mayfield of the Hercules Powder Co. (pine oil), J. L. Brenn of the Huntington Laboratories (finished bulk goods), Dr. E. G. Thomssen of the J. R. Watkins Co. and L. W. Jones of McCormick & Co., (packaged goods), and H. D. Williams of George L. Williams Co. (finished bulk goods). Other members of the committee are W. J. Zick of Stanco, Inc., W. O. Buettner of Buettner Pest Control Co., and John Powell of John Powell & Co. Overlapping interests in the manufacture and sale of disinfectants and insecticides accounts for the expansion of the scope of the the committee.

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Report on Rat Campaign

Chicago's rat extermination campaign has resulted in the death of at least 29 tons of the rodents, according to figures recently released by the municipal Dept. of Public Works. Lately the city's exterminating squads have utilized cyanide gas to supplement dwindling supplies of squill.

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MM&R Expand In Chicago

Chicago offices and warehouse of Magnus, Mabee & Reynard, Inc., New York, have had to be enlarged for the fourth consecutive year by fifty per cent in order to adequately accommodate customers.

Purdue Conference Jan. 4-8

THE Seventh Annual Purdue Pest Control Operators Conference will be held at Purdue University, Lafayette, Indiana, January 4-8. The program, which has been streamlined to meet the needs of the times, will have as its keynote: "Pest Control—Protection of Health—At Home and Abroad." Exhibits, which have been a feature in the past, will again be an important part of the convention. It is planned to expand the exhibit space and members in attendance are urged to bring or send samples of insects, insect or rodent damage and equipment which may be of interest. Each item should be labelled and sent in advance, care of Professor J. J. Davis. Rooms formerly available in the Purdue Memorial Union on the campus will not be available since they are occupied by Army and Navy officers. However, there are ample rooms at the Fowler and Lahr Hotels in Lafayette.

A detailed program of the convention follows:

MONDAY, JANUARY 4

8:00 a.m.-12:00 noon, Registration. Agricultural Bldg., Room 102.
9:00 a.m.-12:00 noon, Agricultural Bldg., Assembly Room.
Presiding, J. J. Davis
Opening the Seventh Annual PCO Conference.....J. J. Davis
Purdue's Welcome...Dean H. J. Reed
"Insect Structure and Their Functions".....B. E. Montgomery
"The Biology of Insects..G. E. Lehker
"Fundamentals of Insect Control" J. J. Davis
1:30 p.m.-4:30 p.m., Agricultural Building, Assembly Room.
Presiding, G. E. Gould
Classification and Identification of Insects, with Special Reference to Those Occurring in Buildings H. O. Deay
(This will include exhibit specimens of infested and damaged food, fabrics, timber, and other commodities, as well as the insects responsible.)
7:00 p.m., Memorial Union Building
Bug "Bull" Session..Wm. O. Buettner
"Specification and Bid Forms" Morton S. Prescott
Fumigation Film followed by "free for all"
Questions and answers

TUESDAY, JANUARY 5

9:00 a.m.-12:00 noon, Agricultural Building, Assembly Room.
Presiding, Walter S. McCloud
Substitute Chemicals
"My experience with Substitutes for Pyrethrum".....Theodore Oser
"What I Have Done to Replace Pyrethrum and Other Priority Chemicals".....Martin T. Meyer
"Some Observations on Priority Chemicals".....John M. Hutzel
"Progress with Roach Control Substances".....George E. Gould
"Boric Acid"...George L. Hockenyos
Questions and Answers Walter S. McCloud
1:30 p.m.-4:30 p.m., Agricultural Building, Assembly Room.
Presiding, C. Norman Dold
Rats and Mice
Experiences in the Use of Zinc Phosphide in Commercial Rat and Mouse Operations...Theodore Oser
"Crude Bait Mixing Versus Scientific Bait Mixing".....G. C. Oderkirk
"Control of Rats and Mice in Army Camps".....F. E. Garlough
"Rat Survey Forms and Related Forms".....G. C. Oderkirk
Questions and Answers....Theodore Oser, G. C. Oderkirk, F. E. Garlough, John Vogel, Walter S. McCloud and Albert Akers.
7:00 p.m., Memorial Union Building
Presiding, J. Harvey Sturgeon
Problems of Civilian Defense Lt. Col. W. A. Johnston
War Gases.....Maj. W. L. Gilliland

WEDNESDAY, JANUARY 6

9:00 a.m.-12:00 noon, Agricultural Building, Assembly Room.
Presiding, Bartlett W. Eldredge
Fumigation Problems
Effect of Fumigants on Food, Fabrics and Other Commodities George H. Chapman
Stored Products Insects.M. D. Farrar
Fumigation Forum.....Bartlett W. Eldredge, chairman; Herman Militzer, Max Rukin, C. A. Vincent-Daviss, George H. Chapman, and M. D. Farrar.
12:00 noon, Conference Picture—Agricultural Building.
1:30 p.m.-4:30 p.m., Agricultural Building, Assembly Room.
Presiding, William O. Buettner
Termites, Powder Post Beetles and Wood Fungi
The 1, 2, 3½ Principles of Subterranean Termite Control....Arthur Ochs, B. C. Scherzinger, George L. Hockenyos and Bert Lewis.
"Wood Treatment Against Wood-Infesting Insects and Fungi" (Speaker to be announced)
Carpenter Aids (Speaker to be announced)
Panel Discussion
Wednesday Evening—
Open for group meetings, etc.

THURSDAY, JANUARY 7

9:00 a.m.-12:00 noon, Agricultural Building, Assembly Room.
Presiding, F. E. Bohman
Protection of the Health and Morale of the Armed Forces
"Pest Control and the War Effort" F. C. Bishopp
"Pest Control in an Army Camp" Irwin H. Gilbert
"Special Problems Which Have Confronted Us in Army Camps and Defense Areas"...P. Calvert Cissel, W. S. Wacker and others.
1:30 p.m.-4:30 p.m., Agricultural Building, Assembly Room.
Presiding, H. C. Steckel
"Origin and Properties of Chemicals Used by the PCO" C. A. Vincent-Daviss
"Advance in Chemistry"..H. B. Haas
"Poison Antidotes"....Charles Opitz
"Disinfectants and Deodorants" (Speaker to be announced)
"The Food of Carpet Beetle Larvae" Carl Weinman
"Life History and Control of Firebrats".....G. B. Berger
6:00 p.m., Banquet, Memorial Union Building.
Toastmaster, President Elliott or Professor Hockema
Speaker, Dr. Thurman B. Rice, State Health Commissioner of Indiana

FRIDAY, JANUARY 8

9:00 a.m.-12:00 noon, Agricultural Building, Assembly Room.
Presiding, Harlem B. Ives
"Sanitary Service Supplies and Insecticides as a Subsidiary Service in Pest Control".....Harvey Klein
"Construction for Termite Prevention, Closets for Clothes, Moth Prevention, Rat and Mouse Insulation, Wall Insulation".Walter S. Scholar
"What We Need in State Legislation" W. P. Flint

U.S. To Buy Rotenone

The United States Government will buy and import an estimated four and a half million pounds of rotenone from Brazil and Peru in the next year, a joint announcement of the U. S. Department of Agriculture and the Board of Economic Warfare stated recently. The Commodity Credit Corp. will act as government purchasing agent. The purchasing program was undertaken in an effort to make up for insecticide sources in Singapore which were cut off by the war. Another motive is to facilitate increased truck crop and livestock production. The C.C.C. will buy all rotenone bearing roots (unground or powdered) having a rotenone content of not less than three per cent. Prices to be paid are 16½ cents per pound, f.o.b. Iquitos, Peru. and 17 cents per pound, North Brazil ports, for rotenone bearing roots containing not less than five per cent crude rotenone. Adjustments are specified for roots or powder of lower or higher crude rotenone content.

Existing commercial companies, acting as agents for the C.C.C., will make the purchases so as not to disturb normal business channels. Sales

G. H. Wood & Co., Toronto, are one of the first companies to have used outdoor billboard advertising on a national scale for the advertising of sanitary products. Lithographed posters are now in use in all important Canadian cities to publicize the Wood line of soaps, disinfectants, insecticides, floor waxes, etc. Effective use has also been made of a mailing piece carrying a reproduction of the biliboard.

of stocks acquired under the program will be made upon approval of the WPB at prices that are not in excess of prices established by the OPA. The program will be practically self-liquidating since the ceiling price for crude rotenone is high enough at present to permit recovery of all costs to be incurred by the C.C.C.

E. Salzberg Joins Army

Edward Salzberg, owner of Roanoke Supply Co., dealers in soaps, waxes, polishes, disinfectants, insecticides, etc., is now a member of the United States armed forces. His brother, J. S. Salzberg, who owns and operates the Bluefield Chemical Co., Bluefield, W. Va., will manage Roanoke Janitor Supply Co. in his brother's absence.

Reviews Insecticide Outlook

Although the supply of rotenone is increasingly scarce due to military needs and an interruption of imports, small gardeners can expect adequate supplies of insecticides for the 1943 season, Warren H. Moyer, of the Chemicals Branch of the WPB, said recently. In place of the popular rotenone insecticides, efforts must be made to substitute less scarce materials, such as nicotine sulfate and cryolite, in many cases where they will serve the purpose satisfactorily Mr. Moyer pointed out. Detailed studies are being made now to review the entire insecticide supply and requirement situation, including valuable alternate materials, new developments and food production goals. At meetings held recently in Washington and San Francisco, representatives of the WPB, the Department of Agriculture, state experiment stations, and the insecticide industry agreed that some further curtailment of the use of rotenone is unavoidable, but that no alarm need be felt because of the supply of effective substitutes which will be available.

Form Insecticide Group

The WPB announced the appointment of an advisory committee for arsenical insecticides manufacturers on Nov. 17, which will be presided over by Warren H. Moyer, of the chemicals branch of the WPB. Committee members include: Hallam Boyd, Commercial Chemical Co., Memphis; J. B. Cary, Niagara Sprayer & Chemical Co., Middleport, N. Y.; J. A. Cavanagh, Dow Chemical Co., Midland, Mich.; H. C. Davies, California Spray Chemical Corp., Richmond, Calif.; J. M. Fountain, Cotton Poisons, Inc., Bryan, Texas; J. J. Haprov, Los Angeles; T. H. Macormack, E. I. du Pont de Nemours & Co., Wilmington; C. B. Melander, Pittsburgh Plate Glass Co., Milwaukee; George E. Riches, American Agricultural Chemical Co., New York; M. L. Somerville, Sherwin-Williams Co., Bound Brook, N. J.; William Steinschneider, Ansbacher-Siegle Corp., Brooklyn; B. P. Webster, Chipman Chem. Co., Bound Brook, N.J.

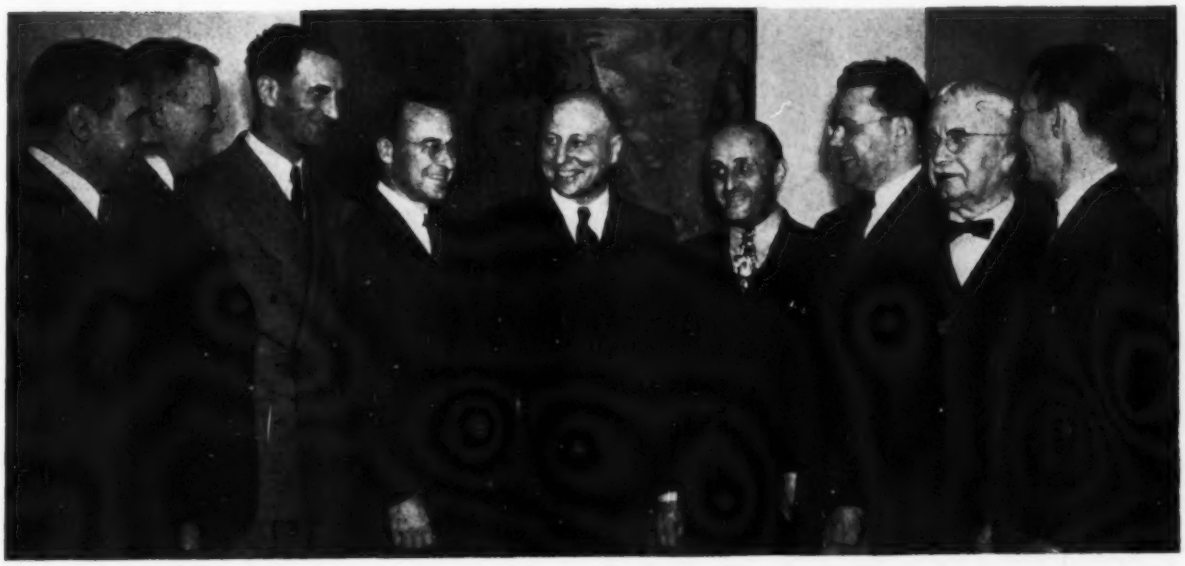
Marcuse Heads Scrap Drive

James Marcuse, president of the West Disinfecting Co., Long Island City, N. Y., has been appointed head of the Industrial Salvage Section of the Conservation Division of the War Production Board for the disinfectant, insecticide and sanitation products industry for the metropolitan area of New York. Mr. Marcuse is directing the local section as part of the renewed drive to salvage all waste materials, particularly iron and steel such as obsolete machinery, and to get them into channels where they will be returned to use in the war effort. As part of this drive for industrial scrap, all firms in the disinfectant and allied fields are being urged to search their plants for vitally needed heavy iron and steel scrap.

Cut Toilet Tissue Prices

Cutting manufacturers' prices of toilet tissue and paper towels from levels of March, 1942, to those generally prevailing in October, 1941, the OPA last month issued a regulation setting ceilings for these products.

As Pest Control Operators Met



PICTURED at the annual meeting of the National Pest Control Association at Pittsburgh last month, are nine past presidents of the association. *(Above, left to right)*—William O. Buettner, Buettner Pest Control Co., Brooklyn, N. Y.; Thos. C. Raley, Getz Exterminators, Inc., St. Louis; C. Norman Dold, Rose Exterminator Co., Chicago; Bartlett W. Eldredge, Waltham Chemical Co., Waltham, Mass.; H. K. Steckel, The Tornado Mfg. Co., Columbus, Ohio; H. G. Irving Sameth, Sameth Exterminating Co., New York; Walter S. McCloud, W. B. McCloud & Co., Chicago; L. R. Alderman, The Alderman Co., Pasadena; P. Calvert Cissel, American Disinfectant Co., Washington, D. C.

(Center Left)—The youngest and oldest attendants — Miss Dorothy Newman, daughter of Jacob Newman of Newman Chemical Co., Holyoke, Mass., who has just recently received her license, and Daniel Rose, Senior Partner, Rose Exterminator Co., Los Angeles, Calif.

(Center Right) — President-elect Frank E. Bohman of Birchard Systems, Inc., Hartford, Conn.

Photos courtesy of Charles Opitz of John Opitz, Inc.

(Below)—J. D. Vail, Jr., of Business Services Section, War Production Board, Washington, D. C., addresses a meeting session, while at the speakers table the group of listeners includes *(left to right)* Melvin Goldberg, Chemicals Branch, War Production Board; Dr. F. L. Campbell, Washington, D. C., William O. Buettner, P. C. Calvert Cissel, F. E. Bohman.

Pyrethrum Questions

(*From Page* 111)

9. *How often can pyrethrum be ordered?*

Answer:

Basically, pyrethrum should be ordered only once monthly, but there again it may be entirely possible that unusual demands will necessitate a manufacturer submitting more than one order in a given month. The usual practice is to certify before the first of each month covering your needs for the following month, because your supplier must send this certification down to the War Production Board in Washington by the 10th of each month.

10. *Are rated pyrethrum orders affected by the M-179 Order?*

Answer:

Obviously, when the Government attaches a preference rating to a given order, it signifies its order of importance. Although the full amount of material requested by any one rated order might be limited because of the lack of supplies, nevertheless rated orders themselves are given preference.

11. *How can pyrethrum be conserved?*

Answer:

There are many worthwhile synthetic materials on the market which can be used either alone or with a nominal amount of pyrethrum in either liquid or powder form to stretch out existing supplies of pyrethrum. This procedure is being followed by the Army and Navy, Department of Public Health, Agriculture, Lend Lease, etc., and it behooves manufacturers of insecticide materials for civilian use to follow the same procedure.

12. *If a a manufacturer's stocks are for Army and Navy orders, can a replacement be secured by certifying on that basis?*

Answer:

No. Orders received by manufacturers for the Army and Navy must be delivered from materials specifically authorized for that purpose by the War Production Board. No replacements will be given for materials taken out of stock unless previously authorized by the War Production Board.

13. *Can material be secured by certifying through more than one supplier?*

Answer:

The War Production Board requests that manufacturers stick to their usual and established sources of supply and in view of the fact that all requests for material proceed through the same department of the War Production Board, there is no chance of a firm duplicating an order through two different sources of supply.

Coal-tar Outlook

(*From Page* 113)

a possible shortage of coal tar oils, particularly creosote oil, during 1942, but it does not appear likely that any restrictions on the use of coal tar oil in the manufacture of disinfectants will be necessary.

Pyridine is being allocated under Order M-185 to assure sufficient supplies for the manufacture of sulfa drugs, niacin and products required for the waterproofing of military fabric. However, the order applies only to the low-boiling grades, high in actual pyridine content, and the higher boiling grades, such as are used as penetrants in the dyeing of fabric and for alcohol denaturing, are not restricted.

Naphthalene is being allocated under Order M-105. A shortage has existed during 1942 which threatened to curtail the production of phthalic anhydride, vitally needed for the manufacture of protective coatings for military equipment, and in the manufacture of dibutyl phthalate for the plasticizing of smokeless powder and in the manufacture of dyestuffs for military fabric. Production of naphthalene has been increased sufficiently to keep pace with this demand and also supply the major portion of the requirements for household and agricultural insecticides. It is expected that further expansion in production will continue to fulfill military requirements, and at the same time supply the need for insecticide during the coming season. However, there is a possibility that some restrictions will be necessary in the insecticide field.

Aromatic Chemical Outlook

(*From Page* 115)

suming industries, brought about a marked reduction in buying. This gave the industry a welcome opportunity to catch up on manufacturing and dispose of a large backlog of orders.

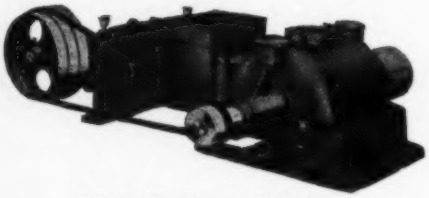
Restrictions on the use of alcohol, together with certain restrictive orders on the use of fats and oils by the soap industries, have undoubtedly had the effect of reducing to some extent the consumption of perfuming materials so that at the moment our industry is, in all probability, better situated from the standpoint of available supplies than it was several months ago. But, what the situation may be six months from now it is impossible to forecast. Users of perfuming materials may rest assured, however, that the aromatic chemicals industry will do its utmost under whatever conditions may develop.

To continue to odorize finished products, we may find that whole industries may be forced, to an extent, to standardize on certain types of perfumes which can be produced from a rather limited range of basic aromatic chemicals, limited because raw material supplies may be further restricted, but manufacturers can be reasonably sure that they will be able at least to give their finished products some sort of pleasant odor,—provided the War does not last too long.

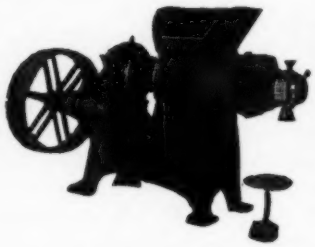
Tephrosia as Insecticide

Roots of *Tephrosia virginiana* indigenous to New Jersey contained only traces of rotenone and an average of only 3.23 per cent of acetone extractives. The extracts exerted little or no toxic action on insects. Texas varieties of *T. virginiana* grew well in New Jersey and the roots of these contained 0.76-1.4 per cent of rotenone and 8-11 per cent of acetone extractives. Acetone extracts of the roots were toxic to several species of aphids. The results indicate that the soils of New Jersey can produce rotenone-bearing plants of this species. J. M. Ginsburg, J. B. Schmitt and T. S. Reid. *J. Econ. Entomol.* 35, 276-80 (1942).

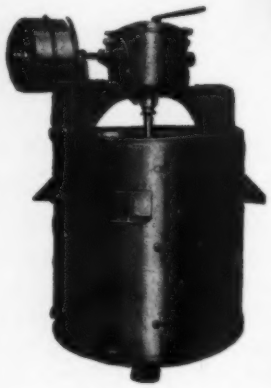
Special Offerings of **SOAP MACHINERY** *Completely Rebuilt!*



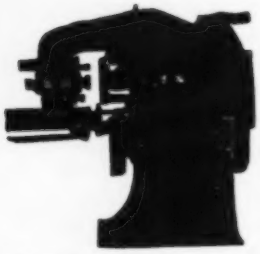
SOAP POWDER MILLS
Sizes 10A and 14



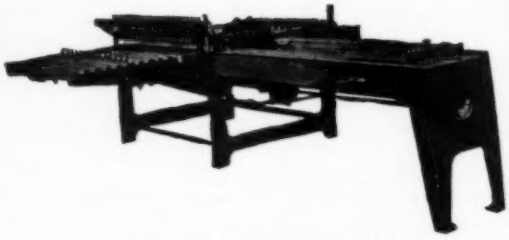
Single screw soap plodders with 6, 8, 10 or 12 inch screws. All completely rebuilt and unconditionally guaranteed.



Newman's BRAND NEW Steel Steam Jacketed SOAP CRUTCHERS
Sizes 1,000 to 10,000 lbs.



4 JONES AUTOMATIC combination laundry and toilet soap presses. All complete and in perfect condition.



2 Automatic Power Soap Cutting Tables.

INVESTIGATE THESE SPECIAL BARGAINS

•

Johnson Automatic Soap Chip Filling, Weighing and Sealing Machines for 2 lb. and 5 lb. Packages guaranteed in perfect condition.

•

ADDITIONAL REBUILT SOAP MACHINERY

All used equipment rebuilt in our own shops and guaranteed first class condition.

- H-A, 1500, 3000, 4000, 5000 lbs. capacity. Steam Jacketed Crutchers.
- Dopp Steam Jacketed Crutchers, 1000, 1200, 1500 lbs. and 800 gals. capacity.
- Ralston Automatic Soap Presses.
- Scouring Soap Presses.
- Empire State, Dopp & Crosby Foot Presses.
- 2, 3, 4, 5 and 6 roll Granite Toilet Soap Mills.
- H-A 4 and 5 roll Steel Mills.
- H-A Automatic and Hand-Power slabbers.
- Proctor & Schwartz Bar Soap Dryers.
- Blanchard No. 10-A and No. 14 Soap Powder Mills.
- J. H. Day Jaw Soap Crusher.
- H-A 6, 8 and 10 inch Single Screw Plodders.
- Allbright-Nell 10 inch Plodders.
- Filling and Weighing Machine for Flakes, Powders, etc.
- Steel Soap frames, all sizes.
- Steam Jacketed Soap Remelters.
- Automatic Soap Wrapping Machines.
- Glycerin Evaporators, Pumps.
- Sperry Cast Iron Square Filter Presses, 10, 12, 18, 24, 30 and 36 inch.
- Perrin 18 inch Filter Press with Jacketed Plates.
- Gedge-Gray Mixers, 25 to 6000 lbs. capacity, with and without Sifter Tops.
- Day Grinding and Sifting Machinery.
- Schultz-O'Neill Mills.
- Day Pony Mixers.
- Gardiner Sifter and Mixer.
- Proctor & Schwartz large roll Soap Chip Dryers complete.
- Doll Steam Jacketed Soap Crutchers, 1000, 1200 and 1350 lbs. capacity.
- Day Talcum Powder Mixers.
- All types and sizes—Tanks and Kettles.
- Ralston and H-A Automatic Cutting Tables.
- Soap Dies for Foot and Automatic Presses.
- Broughton Soap Powder Mixers.
- Williams Crutcher and Pulverizer.
- National Filling and Weighing Machines.

Send us a list of your surplus equipment— we buy separate units or complete plants.

NEWMAN TALLOW & SOAP MACHINERY COMPANY

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Our Forty Years Soap Experience Can Help Solve Your Problems

DIRECTORY

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Positions Wanted

Soapmaker and Chemist with long experience making all kinds of soaps; glycerine recovery, etc. Can take full charge of plant. Address Box No. 423, care *Soap & Sanitary Chemicals.*

Wax and Polishes: Man with over 25 years of practical experience in waxes, polishes, etc., specializing in self-polishing floor wax, and working with own formulas, seeks employment. Over draft-age. Address Box No. 431, care *Soap & Sanitary Chemicals.*

Soapmaker and Chemist wants position. Anything in the soap line. Address Box No. 425, care *Soap & Sanitary Chemicals.*

Sales Manager, male, nationally recognized manufacturer, many years exceptionally successful sales management and forceful leadership complete and long established line finest quality bulk chemical and maintenance compounds sponsored direct to extensive consuming trade, for obviously excellent reasons seeks early and permanent association with thoroughly reliable and progressive organization as General or District Sales Manager. A striking business personality indelibly endowed with skillful initiative; a sales executive unequivocally equipped to register as an invaluable asset to some key enterprise. Am in prime of life, married, excellent health, locate anywhere. Address Box No. 432, care *Soap & Sanitary Chemicals.*

Positions Open

Soap Maker. (Liquid Soaps) experienced. Knowledge of waxes and polishes desirable but not essential. Address Box No. 410, care *Soap & Sanitary Chemicals.*

Miscellaneous

For Sale: 2 — 4 Roll Granite Soap Mills; 4—Foote Powder Soap Presses; 1—Jones Pin Die Press; 1—6″ Plodder; 1—Perfection 1500 lb. Soap Crutcher; Blanchard Soap Powder Mills; Cutting Tables; Slabbers; Filter Presses, 12″ to 36″ square; Kettles, 15 to 2500 gal.; Filling, Labeling and Wrapping Machine; Pumps; Tanks; etc. Cash buyers of your surplus equipment. Brill Equipment Company, 183 Varick Street, New York City.

Floor Brushes — We manufacture a very complete line. Catalogue sent upon request. Flour City Brush Company, Minneapolis, Minn., or Pacific Coast Brush Co., Los Angeles, Calif.

For Sale: 2—5 Roll water cooled inclined steel roller mills, 16″ dia. x 40″ face. Allbright-Neil 3 x 8 ft. Flaking (chilling) Roll unit. Houchin-Aiken Foot Presses; 600 and 1500 lb. Soap Frames; Cutting Tables; Plodders, 12 x 30 and 16 x 40 Three Roll Water Cooled Steel Mills; 4 Roll Stone Mills; Dryers; Chippers; Powder Fillers; Mixers; Grinders; Filter Presses; Disc Filters; Pumps, etc. Send for Soap Bulletin No. 402. We Buy Your Surplus Equipment for Cash. Stein Equipment Corp., 426 Broome Street, New York City.

Wanted: Soap Kettles and all types of Soap and Glycerine Manufacturing Equipment; give complete list of specifications and location of equipment; quote lowest price for cash; Box No. 421, care *Soap & Sanitary Chemicals.*

Will Purchase Immediately — Pneumatic Packaging Machine, used for chips, powder, cleanser; also dry mixers, chip dryers, crutchers, and automatic soap press. Address Box No. 422, care *Soap & Sanitary Chemicals.*

Wanted — Established soap brand. We are interested in purchasing a going brand of toilet or medicated soap to add to our own line. Product should preferably be one on which some advertising has been done and for which there is an established market that can be built upon. Address full details in confidence to Box No. 426, care *Soap & Sanitary Chemicals.*

Insecticide Specifications

(*From Page* 129)

flask. Test the filtrate with barium chloride to see whether sufficient barium chloride has been added to obtain a clear solution. Neutralize exactly 200 ml. of the filtrate with dilute sulfuric acid (1 to 4) and add an excess of 1 ml. of acid, using 1 drop of phenolphthalein as indicator. Filter through a 7-cm. filter paper that has been coated lightly with an aqueous suspension of a filter aid, on a Buchner funnel, and wash several times with distilled water. Transfer into a 500-ml. separatory funnel and extract with two 50-ml. portions of petroleum ether (Federal Specification O-E-751). Wash the extracts with three 10-ml. portions of distilled water and filter through a cotton plug into a clean 250-ml. separatory funnel. Wash the cotton plug with 5 ml. of petroleum ether. Extract the petroleum ether with two 5-ml. portions of 0.1 *N* sodium hydroxide, shaking vigorously. Discard the petroleum ether. Draw off both portions of the aqueous layer into a 100-ml. beaker. Add 10 ml. of Deniges' reagent (see reagents) and let stand for 1 hour. Add 20 ml. of 95 per cent alcohol and 3 ml. of saturated sodium chloride solution. Warm to approximately 140° F. (60° C.) and filter through a 7-cm. filter paper, collecting all the precipitate on the paper. Wash with not less than 10 ml. of hot 95 per cent alcohol and with not less than two 10-ml. portions of hot chloroform, then once with 95 per cent alcohol and then several times with hot water 180-200° F. and place the filter paper and contents in a 250-ml. glass stoppered Erlenmeyer flask. Add 30 ml. of reagent quality hydrochloric acid (specific gravity 1.184) and 20 ml. of distilled water. Cool. Add 6 ml. of chloroform and 1 ml. of iodine monochloride solution (see reagents). Titrate with potassium iodate (see reagents), shaking vigorously after each addition, until no iodine color (red color) is present in the chloroform layer. From the volume of potassium iodate used calculate the amount of pyrethrin I in the sample. (One ml. of potassium iodate solution = 0.0044 gram of pyrethrin I.)

Canadian Container Order

Manufacture of metal containers in a limited number of sizes for a greatly reduced number of products to be packed in specified types of metal and in specified quantities is now the law in Canada. Administrator's order No. A-425 *"Respecting Metal Containers and Closures,"* which was issued recently, went into effect for can manufacturers on November 15, and will become effective for packing on December 31. A master list, Schedule A, which is really ten lists or product classifications, states what commodities may be packed in what metal, gives the quantity that may be packed for the 12-month period October 1, 1942 to September 30, 1943 and specifies can sizes and dimensions. In telling the kind of metal that may be used there is a choice of styles. For example, the order says sprays, dusts and insecticides with pyrethrum or rotenone base are to be packed in tinplate, but, tin, terne or blackplate can be used. Similarly, sprays, dusts, disinfectants and insecticides are to be packed in terneplate. Under provisions of the order, terneplate or blackplate can be used. Unlike nicotine sulfate which must be packed in tin, sodium chlorate is listed for blackplate. No tin or terneplate is to be used when blackplate is specified.

Sizes can be interchanged within specified limits. But not beyond the quantity permitted. On none of the aforementioned pesticides are any limits placed as far as the amount that can be packed. Pyrethrum and rotenone based insecticides can be packed in 4, 5, 10 gallon and larger sized containers. Sprays, dusts, disinfectants and insecticides are to be packed in 4, 5 gallon and larger sizes. So, too, is nicotine sulfate. Sodium chlorate is listed for a one-gallon can and larger sized container.

Manufacturers can use lithographed or otherwise processed metal in their possession on or before the date of the issuance of the regulation up to November 15.

Eastern PCO Meets Jan. 11-13

The Third Eastern Pest Control Operators' Conference will be held at Massachusetts State College, Amherst, Mass., January 11, 12 and 13. The conference is sponsored by the college in cooperation with the National Pest Control Association. In addition to a group of addresses on various phases of pest control work, there will be one whole day devoted to laboratory work.

INDEX

* For further details see announcement in 1942 SOAP BLUE BOOK

Every effort is made to keep this index free of errors, but no responsibility is assumed for any omissions.

Tale Ends

AT least the soap needs of the American Army and Navy are now on an equal footing with soap required for Lend-Lease shipments. Both are exempt from fat and oil quotas. This should be considered another victory for our armed forces, mostly moral.

* * *

The "controlled materials plan" is the new distribution system announced last month by the WPB to replace gradually the present priorities system including the Production Requirements Plan. Details of the new plan include holding industry "clinics" and "trained experts to address a continuous series of meetings in the field." Hold your hats, boys, here we go again!

* * *

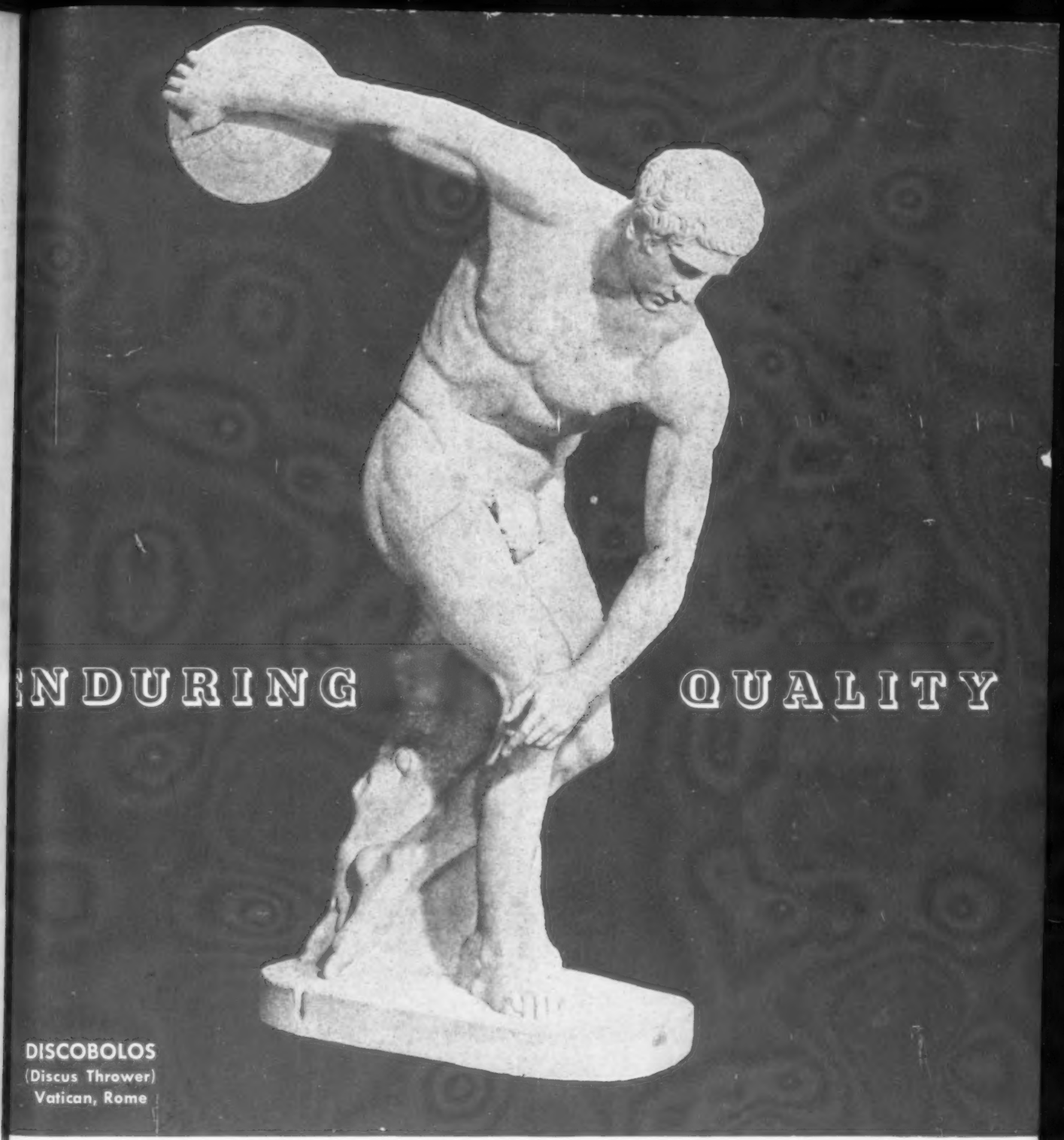
Unless somebody is giving us a bum steer, the outlook for pyrethrum supplies for use in household and industrial sprays for civilian and industrial use in 1943 is much rosier right now than it was six or eight weeks ago. We hope that it doesn't cloud up again.

* * *

A good many firms who until a month ago seemed to be very proud of the fact that their plants were running 60 per cent, 80 per cent or more on war materials, now appear to be soft-pedaling advertising in this vein. Two reasons are given,—first, people are getting tired of reading boasts about the part which this firm or that firm is playing in the war effort,—everybody is in it, so why brag? Second,—regular customers are turning elsewhere for supplies because they think that some suppliers are too busy on war work to take proper care of them. Even manufacturers 90 and 100 per cent on war work have one eye cocked on their post-war market.

* * *

No Christmas trees this year. They tell us that neither the men to cut them in the Canadian woods nor the cars to carry them can be spared. Think of all the soap flakes that will not be used this year to produce Christmas tree "snow."



DISCOBOLOS
(Discus Thrower)
Vatican, Rome

TIME-DEFYING endurance . . . flawless composition . . . perfect balance . . . again and again the works of the ancients embody these qualities.

We at Ungerer have taken infinite trouble to instill these same characteristics into all Ungerer Products. The continued acceptance on the part of manufacturers of our volatile oils, aromatic materials and perfume bases is ample reward for the time and energy that have gone into their making.

UNGERER & CO.

161 SIXTH AVENUE **NEW YORK**

Wardia

Fresh and exhilarating as the flower itself—WARDIA—an entirely synthetic Rose character, is meeting the most exacting demands of discriminating perfumers. Used by itself or as a replacement for the natural Rose oil it is invaluable. A Chuit, Naef product, ample stocks are available in this country—$58.00 per pound—a trial ounce $3.75.

Firmenich + Co.

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